GrummanWorld

Volume 6, Number 18 October 9, 1987

Grumman To Buy Fairchild Republic Engineering Center

On September 30, Grumman Corporation announced that it has reached an agreement with Fairchild Industries Inc. to acquire Fairchild Republic Company's Long Island Engineering Center, Farmingdale, New York. The terms and amount of the all-cash sale were not disclosed.

Fairchild's Long Island Engineering Center consists of an aircraft flight systems simulation laboratory and the engineering support team for the U.S. Air Force's A-10 aircraft. No real estate is involved in the acquisition, which will be complete by the end of this year.

Grumman will offer employment to the Center's entire work force of 120. Most of the engineers will work in Building 112, Melville, as part of Grumman Aircraft Systems' Air Force Programs group. The A-10 simulator and its staff will be housed at Grumman's William T. Schwendler Engineering Center in Bethpage.

Aircraft Systems President Renso Caporali said the acquisition broadens Grumman's business base while enriching its pool of engineering talent. "This is an unusual opportunity to welcome a seasoned engineering group into the company and expand our relationship with the Air Force at the same time," Caporali said.

U.S. Senator Alfonse D'Amato (R-C-NY) said that Grumman's purchase of Fairchild Republic's A-10 simulator team and its Long Island engineering center will keep an estimated $70 million in Air Force work on Long Island.

"It is not only good news for the affected workers, but for the entire Long Island economy which will reap the benefits of the continued work associated with supporting the Air Force's fleet of A-10s," said D'Amato, who is a member of the defense appropriations subcommittee. Because of the uncertainty of the future of Fairchild's Republic division, the Air Force has been reluctant to approve any contracts for A-10 support.

"Providing support for the 657 A-10s now operated by the Air Force will mean approximately $70 million in contract work," said D'Amato. "Because of its purchase of the A-10 simulator team, Grumman and its subcontractors on Long Island will perform much of this work."

Jake Bussolini, Grumman's vice president—Business Operations, noted that several proposals to the Air Force Logistics Command for A-10 new developments are pending. He likens the plane to the Grumman OV-1D Mohawk: an out-of-production aircraft that requires support and constantly undergoes upgrades, thereby accounting for a large chunk of work.

"There is a lot of A-10 business out there," Bussolini said. "This is a good business deal for Grumman. We have spent a lot of effort cultivating a relationship with the Air Force. The A-10, for all intents and purposes, becomes a new product for Grumman to support — provided, of course, we keep our prices competitive."

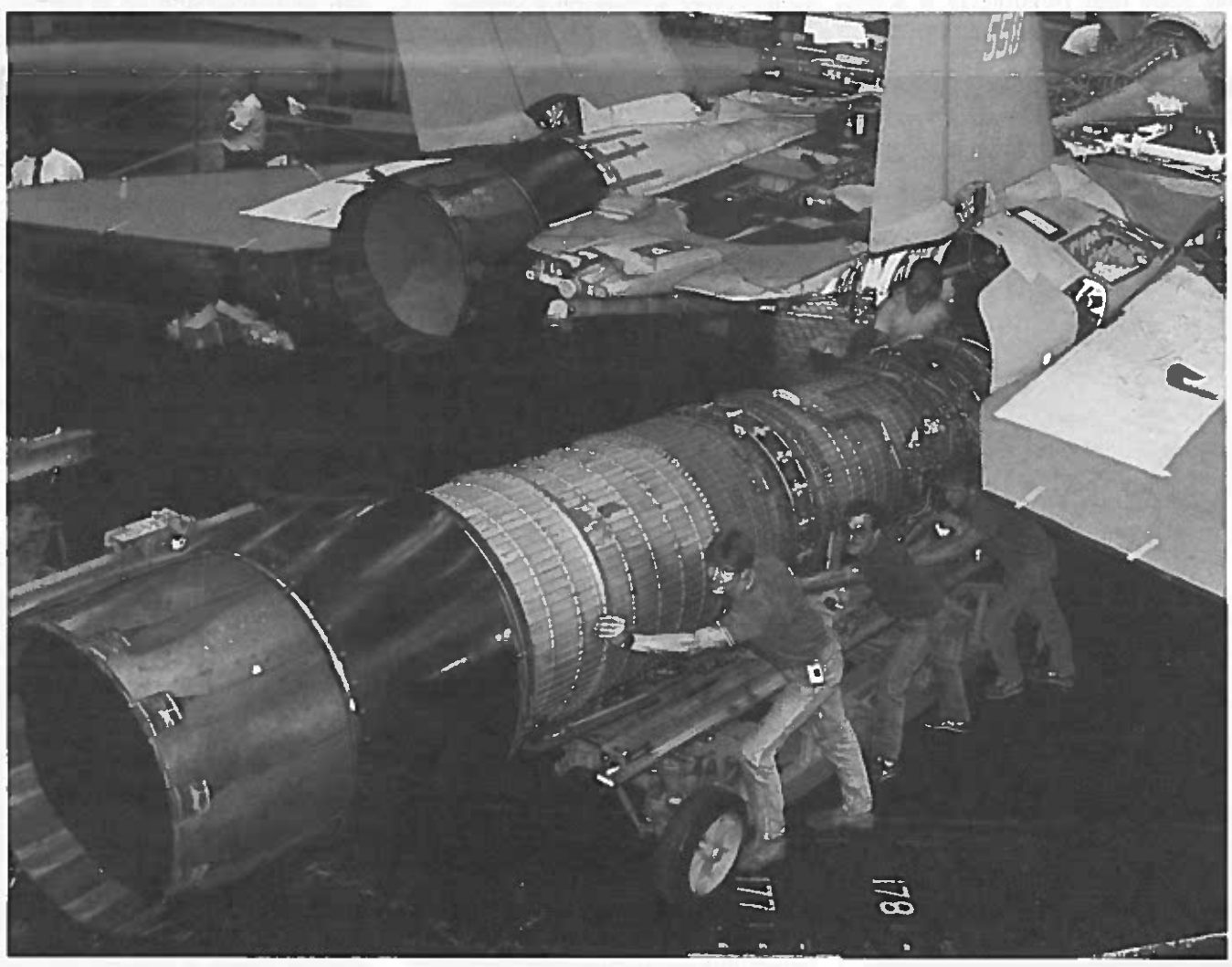
Grumman will offer to manufacture spares for the A-10. Upon Air Force approval, tooling for these parts would be moved from Fairchild's Hagerstown, Maryland, facility.

Grumman hopes to have all 120 members of the A-10 team on staff by the end of October to avoid any gap in employment. They will receive their current compensation, in addition to Grumman's standard package of fringe benefits.

The simulation lab consists of a room full of computer equipment, data gathering and measurement devices, software, and an airplane cockpit. It will be housed with other simulation equipment in the Development Center.

Grumman will also acquire the computer aided design and manufacturing (CAD/CAM) system and terminals on which the engineers work. It uses the same software as Grumman's engineering systems.

The A-10 is the backbone of the Air Force's close air support capability. The plane is known for its agility, low noise, and superb armor protection. No new A-10s are being manufactured, so as the fleet becomes older, the procurement of spare parts is expected to increase.■



Nice And Snug. *Grummanites (L to R) John Berchin, Ernie Albizu and John Moisa roll a new G.E. engine out from under the F-14A+ during fit checks at Calverton. Orlando Pastor guides the engine under the plane. (Photo by Karl Thoma)*

First Production F-14A+ Closer To Completion

During the week of September 21, Grummanites in Calverton (L.I.) verified the fit of the new General Electric F110-GE-404 engines in the first production F-14A+. The engines have now been installed in the aircraft. The new engines have a 30 percent thrust increase over the F-14A's engines.

The next hurdle for the first production A+ is the testing of all its systems in preparation for its first flight next month at Calverton. Grumman will deliver two A+ Tomcats this year.

Grumman is also developing advanced digital avionics and weapons systems for the Tomcat. These will appear in the F-14D model. The manufacturing of detail parts for F-14D's is scheduled to begin next month. Grumman expects to deliver the first production "D" model in 1990.

What's Inside

St. Augustine Plans Growth - Pg. 2

Lavi Program Phases Down - Pg. 3

Pt. Mugu Equips F-14 With Chaff - Pg. 4

New Master File For Manufacturing - Pg. 6

Offsets And Foreign Military Sales - Pg. 8

Learning The Nuts And Bolts - Pg. 12

What About The Federal Deficit - Pg. 13

Letters

Dear Editor,

At the three-way intersection between Buildings 14 and 15 people drive with courtesy and consideration...and that's the only place in Bethpage.

People driving the road connecting the Building 30 and 15 gates do not drive at 25 or 30 miles an hour. This is a spot for speed enforcement.

The road past Building 4 is another area for speed enforcement.

If driving properly, there's no need to use your brakes on that deep curve around the South Oyster Bay Road end of the runway. But then, who's driving properly and at a safe speed? The accident that occurred there was, in two words, plain stupid.

People are becoming lazy and lax. If they continue their bad habits here at Bethpage, they may carry them over to their neighborhoods...and they may not make it back.

Richard Carey
NAVPRO
Bethpage, L.I.

Dear Editor,

Have you ever noticed how we Grummanites disregard stop signs and stop lines on the roads within the Bethpage complex? I find that few people even bother to stop or slow down for these "annoyances." After all, they have no fear of getting caught by the police, so why should they?

Apparently, within the complex, two-, three- and four-way intersection stop signs don't mean what they do in the outside world. On occasions when I have called this to the attention of the offending driver, I usually get the international salute. I've come close to getting hit several times and thought perhaps I had a bull's-eye painted on my car.

It's not a pretty sight to witness drivers with the "right of way" and those who just failed to stop at the sign seemingly race each other to the intersection as though they were on their way to the demolition derby. The road that runs from the Building 30 gate to South Oyster Bay Road near Building 15 is a prime example — it's a beaut!

Come on, Grummanites! Let's get back to basics and obey the law. If nothing else, it should be good practice for the time when we get back on the real roads of the outside world.

William Mulligan
ILS Publications
Bethpage, L.I.

Unit Values

The Grumman Employee Investment Plan has reported the following unit values as of August 31, 1987 (compared to July 30, 1987 figures):

Equity Fund
4.944 up from 4.893

Fixed Income Fund
5.697 down from 5.720

Guaranteed Income Fund
2.581 up from 2.558

Company Stock Fund
$28.81 down from $29.75

Note: It usually takes several weeks to formulate these values. EIP members can call Ext. (111) 54400 (outside Grumman, call 516-575-4400) for a recorded message which is made as soon as the new unit values are available.

Freebies From IRS

You can call the IRS Tax Forms/Publications toll-free number — 1-800-424-3676 — for free copies of the following booklets:

"Tax Withholding and Estimated Tax" (Publication 505), "Highlights of 1986 Tax Changes (including the Tax Reform Act of 1986)" (Publication 553), and "Is My Withholding Correct?" (Publication 919).

Almost Ready To Install. *John Berchin of the Engine Build-up Department in Building 7, Calverton, checks for foreign object debris (FOD) in the engine of F-14A+ aircraft number 559. When the General Electric engines are delivered, Grumman attaches hardware to adapt the engine to the F-14. The engines are then ready for installation. (Photo by Rich Breunig)*

Getting A Lift. *Grummanites at St. Augustine in Florida lift the wing center section off an an E-2C Hawkeye. Grumman St. Augustine Division has a contract with the Navy to refit a prototype and seven fleet Hawkeyes with new, beefed-up wing center sections.*

St. Augustine Beefs Up Hawkeye Wings

ST. AUGUSTINE, Fla., September 23, 1987 — Grummanites today successfully completed the first fit check of a structurally enhanced wing center section on a veteran E-2C Hawkeye.

Grumman has a $28 million initial contract from the Navy to refit a prototype and seven fleet Hawkeyes with the new, beefed-up, wing center sections.

The Aircraft Systems Division is building the center sections in Bethpage's Building 2 and shipping them to Grumman St. Augustine for installation under the mod program. The prototype was put together in Bethpage by Aircraft Systems; the rest of the aircraft modifications are being done in Florida.

"The structural enhancement is designed to meet the increased growth, weight and operational requirements for the E-2C in today's fleet environment," says St. Augustine President Joe Walter. "Today's E-2C's are flying more sorties than ever. They are also carrying more weight."

Grumman delivered the first E-2C in 1971 and, since then, Navy Hawkeyes have logged over 350,000 flight hours. Today, there are 119 Hawkeyes in service around the world; 21 of them are used by foreign military services.

The first two planes in the structural enhancement program are slated for delivery in December. A total of 80 Hawkeyes are expected to get the new center section over a four- to five-year period.

The E-2C is a new aircraft for St. Augustine, so Grummanites here went to Bethpage to learn the plane's ins and outs. Bob Bischoff, director of E-2C Production Operations for Bethpage and St. Augustine, brought three engineers with him from Bethpage to work on the project. Their job is to provide structural and analytical expertise and technical writing.

"All of a sudden, this became a major part of St. Augustine's future," says Bischoff. "We now have 45 people on the program and will probably build up to over 100."■

Obituaries

James J. Brady of Technical Operations, Stuart, Aircraft Systems Division, died Sept. 15 at the age of 49. He had been with the company since 1956 and resided at 10171 Daphne Ave., Palm Beach Gardens, Florida.

Patricia A. Grenci of General Accounting, Bethpage, Aircraft Systems Division, died Sept. 8 at the age of 36. She had been with the company since 1985 and resided at 223 Wellington Rd., Mineola, N.Y.

William J. Groth of Ground Support Scheduling, Great River, Electronics Systems Division, died Sept. 14 at the age of 64. He had been with the company since 1948 and resided at 8 Joseph Ct., Syosset, N.Y.

Robert E. Grove Sr. of Distribution, Milledgeville, Aircraft Systems Division, died Sept. 8 at the age of 57. He had been with the company since 1975 and resided at 121 Lata Terrace, Milledgeville, Georgia.

Charles A. Hammerstein of Machine Shop, Glen Arm, Aircraft Systems Division, died Sept. 5 at the age of 41. He had been with the company since 1968 and resided at 353 Church St., Glen Rock, Pennsylvania.

Thomas A. Hill of Production Control, Great River, Electronics Systems Division, died Sept. 3 at the age of 57. He had been with the company since 1962 and resided at 369 Birchwood Rd., Medford, N.Y.

Irene M. Nilsson of Engineering Services, Bethpage, Aircraft Systems Division, died Sept. 8 at the age of 53. She had been with the company since 1976 and resided at 10 Auburn St., West Babylon, N.Y.

Martin L. Rossi of Nuclear and Astrophysics, Bethpage, Aircraft Systems Division, died Aug. 23 at the age of 52. He had been with the company since 1959 and resided at 6003 Fairfield Way, Commack, N.Y.

Next Issue: October 23

Silver Snoopy Award. *Astronaut Lt. Col. Ken Cameron (USMC) presents the award to Linda Lester for outstanding support of the space program.*

Four From Glen Arm Receive NASA Awards

In Glen Arm, Maryland, four Grummanites — Linda Lester, Ron Mason, Ralph Mowinckel and Rusty Rutherford — each received the "Silver Snoopy Award" on September 17 from Astronaut Lt. Col. Ken Cameron (USMC). The award is given by an astronaut for outstanding support for the space program. The Grummanites were nominated by Glen Arm management.

Glen Arm, a Parts Fabrication site for Aircraft Systems, began building barrel panels for the Space Shuttle booster rockets in June 1984. Grumman has a subcontract with Martin-Marietta of Michaud, Louisiana to produce the large aluminum panels. These panels are formed and joined together in Louisiana as part of the liquid hydrogen tanks. Production was halted in July 1986 as the result of the Shuttle disaster in January. Grummanites at Glen Arm had produced 160 parts — 10 shipsets — on schedule and within costs. The production run is scheduled to start up in March 1988.

The four Grummanites honored by the astronaut played key roles in Glen Arm's successful Shuttle tank panel program; they were nominated by Glen Arm management. "They exemplify the team spirit and dedication at Glen Arm," says Bob Valente, Glen Arm plant manager.

Rutherford is a machining leadman; Mason, a senior numerical-control machine operator; Mowinckel, a senior machined parts inspector; and Lester, a junior machined parts inspector.

A Personal Visit. *Astronaut Ken Cameron visited Glen Arm in Maryland, recently, to congratulate Grummanites Ralph Mowinckel (bottom R), Rusty Rutherford (top R), and Ron Mason (L).*

Israel Cancels Lavi Program; Grumman Effort Ends In Dec.

On August 30, the Israeli Cabinet elected not to proceed with production of the Lavi fighter program. During the week of September 14, a team from Israel's Ministry of Defense and Israel Aircraft Industries (IAI) visited Grumman Aerostructures in Melville, L.I. to discuss the phasedown of the current development effort.

In June 1983, Grumman won a development contract to design and manufacture prototype composite fuel-carrying wings and a composite tail for the multi-role fighter. In January 1986, the first shipset of wings and vertical tail assemblies was delivered to IAI. Two more shipsets have since been delivered; a fourth will be sent in December. Two of the shipsets were successfully flight tested by IAI, and all performance goals were met or exceeded.

"Naturally, we are disappointed," says Aerostructures President Don Schlegel. "We had successfully completed four years of difficult development work and had looked forward to a long production run on the Lavi program. Our relationship with the Israelis has been very good, and we will continue our other business associations with them producing nacelles for their business jets."

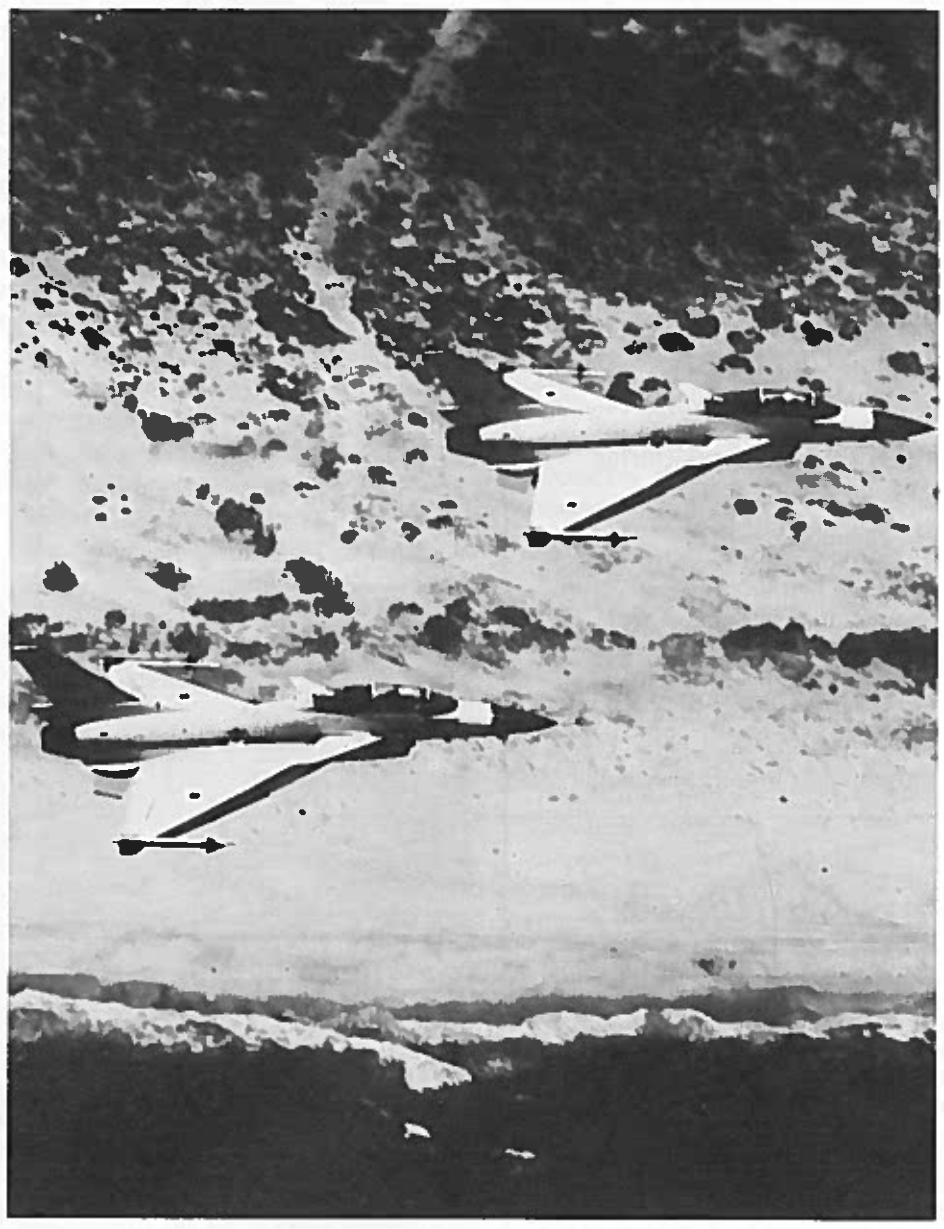
"During the recent Israeli visit, plans were made to phase down the Lavi program in an orderly fashion by the end of the year," says Robert Kroog, Lavi program director. "The current plan requires transfer of the design documentation and tooling to Israel with delivery of the fourth and final shipset."

In recent months, negotiations for a production run were completed; deliveries were to start in December 1989 and extend well into the 1990s.

"About 100 engineers in Aerostructures were assigned to the Lavi," says Schlegel. "But, in recent months, we've won several new contracts, such as the C-17 control surfaces with Douglas and the translating cowl for the General Electric CF-6-80C2 engine. So, there is a strong demand for these people on other programs."

At Milledgeville, Georgia, about 50 Grummanites have been building composite parts for the Lavi. "To offset this loss of business, we'll be cutting back on overtime and transfer all the people to other programs," says Tom Main, acting general manager of Milledgeville Operations. "Some will work on the V-22 Osprey, while others will join the G.E. transcowl program, which is just getting started. Next year, we begin working on the C-17 control surfaces."

Sophisticated machined parts were supplied by Glen Arm, Maryland; wiring for the wings was fabricated in Electronics Systems' Great River facility; and the complete sections were reassembled and shipped from Bethpage. The people at these sites will also be reassigned.■



Lavi Production Ends. *Two Lavi fighter prototypes fly over Israel during flight tests earlier this year. On August 30, the Israeli Cabinet decided to cancel the Lavi production program. Grumman will ship the last of four shipsets of wings and vertical tails to Israel in December.*

School's Open, Please Drive Carefully

Pt. Mugu Helps Navy Equip F-14s With Chaff

POINT MUGU, California — Tiny needle-like metal bits called chaff make the F-14 Tomcat invisible to enemy radar.

When chaff is ejected from an aircraft in a dogfight, the sudden cloud of metal will cause "ghost" images to appear on the enemy's radar displays, enabling the Tomcat to evade detection. While chaff is nothing high-tech or fancy, it took some creative thinking to get a government-furnished chaff dispenser to fit inside the Tomcat's weapons rail and to work properly. To build a custom-made adapter, the Navy turned to Grummanites working here at the Pacific Missile Test Center.

The chaff adapter project was a spinoff from a previous modification project: equipping F-14s with the tactical air reconnaissance pod system (TARPS). Equipped with TARPS, the Tomcat can take reconnaisance photos, in addition to its role as a fighter.

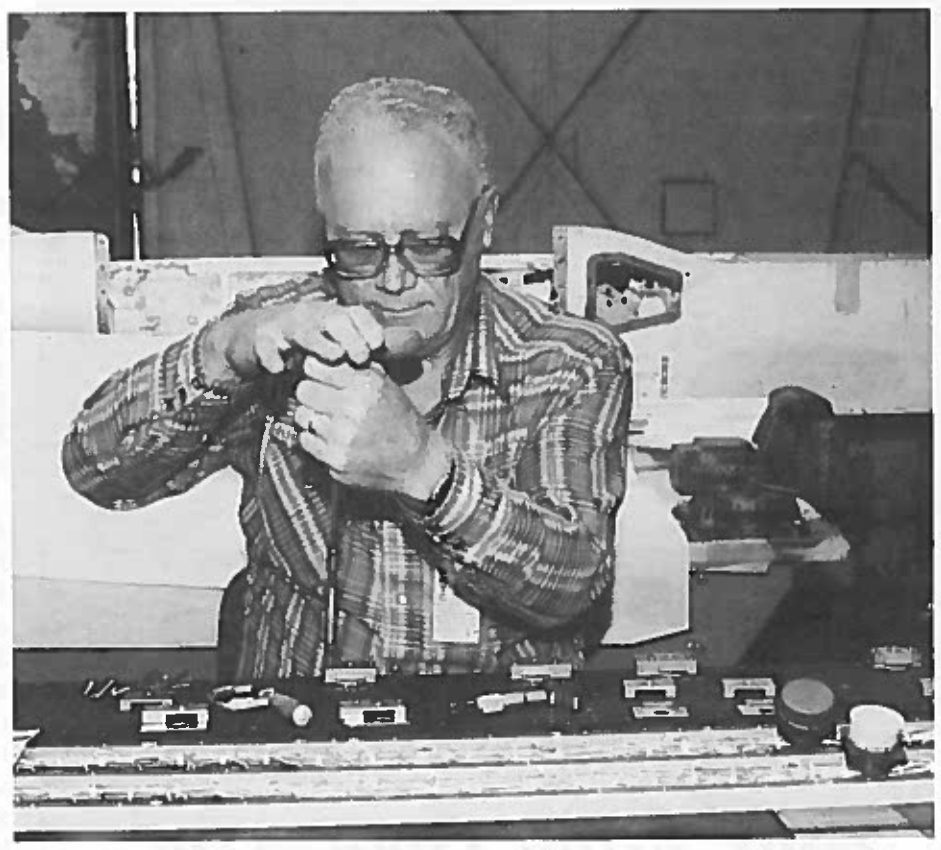
"But during such missions, the enemy can predict the path the plane must take, making the F-14 more vulnerable to attack," says Tom Reilly, Grumman project manager for new developments at Point Mugu. "Accordingly, extra defensive electronic countermeasures capabilities involving additional chaff dispensing became a requirement for survivability."

Chaff is made of fiberglass-covered aluminum. It may seem simple, but there is a science to it. Different textures, shapes and sizes scramble different types of radar.

"When the aircraft releases chaff, the resulting cloud looks like a swarm of bees," says Reilly. "It disperses quickly because of the churning effect of the air in the tunnel behind the plane."

Grumman's adapter fits over the chaff dispenser like a sleeve and takes about a minute to install onto the F-14. The government-furnished chaff dispenser was originally built for a helicopter and its electrical and mechanical attachments differ significantly from those in the F-14's weapons rail. The Grumman adapter mates the F-14, the weapons rail, and the chaff dispenser.

In addition, the Grummanites at Point Mugu salvage old chaff dispensers, which become corroded from use at sea. They install new aluminum and stainless steel skins, thereby recycling used equipment that would otherwise be discarded by the Navy.■



Custom Solution. *Grummanite Bill Neuner builds a chaff adapter cover assembly for the F-14. Chaff lets the plane evade detection by the enemy.*

A Specialty Shop

The Navy evaluates prototype modifications for fleet aircraft at its Pacific Missile Test Center in Point Mugu. The 300 Grummanites assigned to the center help the Navy with the design and installation of this prototype equipment.

"We are perfectly set up to handle small runs of specialized work," says Phil Tartas, Grumman's manufacturing manager at Point Mugu. "We don't do high volume manufacturing. We do a combination of prototype work and modifications to aircraft.

"When the Navy gives us something, it wants it fast!" he adds. "Likewise, it gives us more flexibility on how to build it and what materials to use. A large, high volume production organization can't operate that way."

The Grummanites at the center have installed a variety of systems on the F-14 and the EA-6B aircraft. The most complex project ever undertaken by the group involved shoring up fuselage bulkheads on 248 F-14s. The work took nine months to finish. The work was done at Point Mugu; Miramar, California; and Norfolk, Virginia.

The Point Mugu crew is now finishing an aluminum test stand for F-14 missiles. In addition to fabricating the gallows-like aluminum structure from scratch, wiring crews have built and installed intricate electrical harnesses. The stand will hold Phoenix missiles in place for tests of their guidance software.

NASA Honors Technical Services' Quality Circle

NASA recently presented Grumman Quality Circle group "The G.-T.E.A.M." (Grumman Technical [Services] Employees Assisting Management) an award for outstanding achievement in meeting the space program's goals and objectives.

The Manned Flight Awareness Award is one of the highest honors presented to a NASA contractor or government agency employee. The group works in the Central Data Systems Department, Grumman Technical Services Division at Kennedy Space Center, Florida. The team was selected for applying methods learned in two training classes to NASA's Shuttle Processing program.

The circle attended a stress training class and a leadership course. The members then composed a 26-page handbook describing how their department relates to surrounding work areas.

The book was developed after the group discovered that employees had difficulty in relating their jobs to the overall program. This caused communication problems, slowed the work process and often caused misinterpretation of contract goals and requirements.

The team also developed a new procedure for obtaining and filing NASA instructional memos. The project provided Grumman with a total projected cost savings of $20,000 annually.

The circle helped set up a more efficient route for the Space Center Courier Service. Places for special pickups and deliveries were established, saving time in receiving documents and magnetic tapes.

The G.-T.E.A.M. consists of facilitator Norma Shear, leader Rick Hicks, and members Richard Maples, Alicia DeForest, Judi Killebrew, Margie Akelewicz, Donald Kadlec, Ed Hauck, Sharon Lee, Tom Eastham, and Mary Fontaine. They and other honorees will be NASA's guests for four days in Huntsville, Alabama, arriving October 26. They will tour Marshall Space Flight Center, the Alabama Space and Rocket Center, and Space Camp. There will also be a reception in their honor.■

RAMP Is Rolling Along

In South Carolina, a 20-member Data Systems team and other members of the American Manufacturing Research Consortium recently passed the system design review of the Rapid Acquisition of Manufactured Parts (RAMP) project.

The consortium will develop complete manufacturing cells for the Navy. These cells will produce small mechanical parts and printed circuit assemblies. The turnaround time will be fast to improve fleet readiness.

The consortium is the sole subcontractor to the South Carolina Research authority, the prime contractor to the Navy for RAMP. About 75 people from Arthur D. Little, Battelle Memorial Institute, Ingersoll Engineers and Grumman are working on RAMP in Charleston, South Carolina. A new facility is being constructed for the project.

The Grummanites are designing the custom manufacturing software that will control sophisticated factory automation hardware.

RAMP is now in the preliminary design phase with a preliminary design review set for next spring. RAMP is scheduled to be completed in 1991.■

Personals

My family and I wish to thank all my co-workers, ESO and the personnel department for their kindness and support during my daughter's long illness. Your thoughtfulness and sincere expressions of love will make Brenda's passing easier for us to bear. God bless. **Everett Bennett**

I would like to express my thanks to the employees of Grumman, especially the Retiree Club and the Calverton avionics methods department for their kindness and sympathy during my husband Patrick's illness and recent death. **Anne Towey**

I would like to thank all my friends at Grumman for their kindness and thoughtfulness after my mother's death. The expressions of sympathy and support meant a great deal to me and my family. **John Knispel**

My family and I wish to thank all my friends, co-workers and ESO for their kind expressions of sympathy during the recent loss of my mother. **Mickie Pinto**

We wish to express our thanks and appreciation to all my friends and ESO for their kind expressions of sympathy on the recent loss of our mother. **Vic Zourides and Family**

My family and I would like to express our appreciation and thanks to all my co-workers and ESO for their expressions of sympathy and support during the recent loss of my brother. **Janet L. Jazombek**

Three Quality Circles Take A Bow For '87 Projects

Over 200 quality circle members recently gathered in Grumman headquarters to honor the 1987 Circle Award winners.

"The Noisy Bunch," "The Trailblazers," and "The Metal Bond Troubleshooters" were the winners of the 1987 Circle Project Awards. Their projects were chosen for having the greatest performance impact on the company and saving Grumman the most money.

"The Noisy Bunch" helped save $156,000 in manhours and $7,997 in materials. As part of the Parts Fabrication Department in Building 3, the circle focused on the unnecessary wrapping of parts in plain brown paper. The parts only had to be transported to a nearby department.

Under the leadership of John Scimone and facilitator Jack Hooper, circle members Eddie Shay, Pete Henderson, Al Lipski, Vinnie Holoman, Bob Robinson and Robert Lucas discovered that the brown paper wrapping did not provide any additional protection for the parts. Also, the paper would often tear in transport.

"The most important criterion for winning a Project Circle Award is getting the project implemented," says Joyce Sparling, administrator for the Quality of Work Life Department. "We want the groups to work on projects that have a strong possibility of being accepted by the managers as feasible solutions to department problems."

To insure that circles stay on that path, the facilitators are asked to follow an agenda and submit monthly reports of the meetings to the managers.

Leader Al Westbrook guided his "Trailblazers" into winning an award for a Computer Assisted Storage of History (CASH) system. The group's effort saved the company at least 1,250 manhours a year.

With the assistance of facilitator Julie Salgo, circle members Ben Kenney, John Cataldo, Mike Walters, Ed Doyle, Doug Constantine, Cliff Oppegard, Pat Collins, Mike Redding, Mike Protasewicz and Chris Vastola developed a computer program that would make it easier for people in the Industrial Systems Engineering Department in Building 30 to get information about production machinery.

A Plain Waste. *The Quality Circle group 'Noisy Bunch' discovered that wrapping parts in plain brown paper before being transported to a nearby workstation could be eliminated. From the Parts Fabrication Department in Building 3 are: (L to R): Al Lipski, Eddie Shay, manager Fred Welge, Pete Henderson, Vinnie Holoman and leader John Scimone. Not available for photo: Bob Robinson and Robert Lucas. (Photo by Rich Breunig)*

"Each person in the department is responsible for different pieces of equipment," says Westbrook. "They have their own files on that equipment organized in their own way. Finding information in another person's file required an awful lot of wasted time."

Every piece of Grumman machinery has a unique tag number. By entering that number into the computer, the user can find out information such as purchase order number, serial and model numbers and machine location.

"The computer acts like a card catalogue in a library," says circle member Mike Redding. "You can find some quick information at the computer and it will tell you where to locate whatever else you need."

After four circle meetings the "Troubleshooters" including facilitator Jay Dickson, leader Willie Macklin and members Karen England, Lamar Wood, Grace Reece, James Rushin, Wilson Hawkins, Gwen Sanford and Robert Knighton suggested a solution for lost production time in the Metal Prefit and Bonding Department of Product Operations in Milledgeville, Georgia.

The adhesive used to bond two pieces of aluminum together during production of the F-14 must be tested every 168 hours. Eleven people would lose four hours each week in production time waiting for the next batch of tested adhesive to be delivered.

Quality Control would test the adhesive and put it in the stockroom until the 168 hours on the last batch ran out. By the time the new adhesive was requested and released, the material already had lost usable hours.

The generating cycle of the report necessary to release the tested material was a lengthy one. Through study and research, the circle determined a preliminary procedure that would allow for the release of the material much quicker.

At the ceremony, three Leader Recognition Awards were also presented for outstanding skills exhibited in leading their circles through successful projects. Awards were presented to: Chris Chenery of Aircraft System's Center Section Final Assembly Department, Florella Crouch of Aircraft System's Quality Lab in Milledgeville, Georgia, and John Scimone of Aircraft System's Small Parts Fabrication Department.■

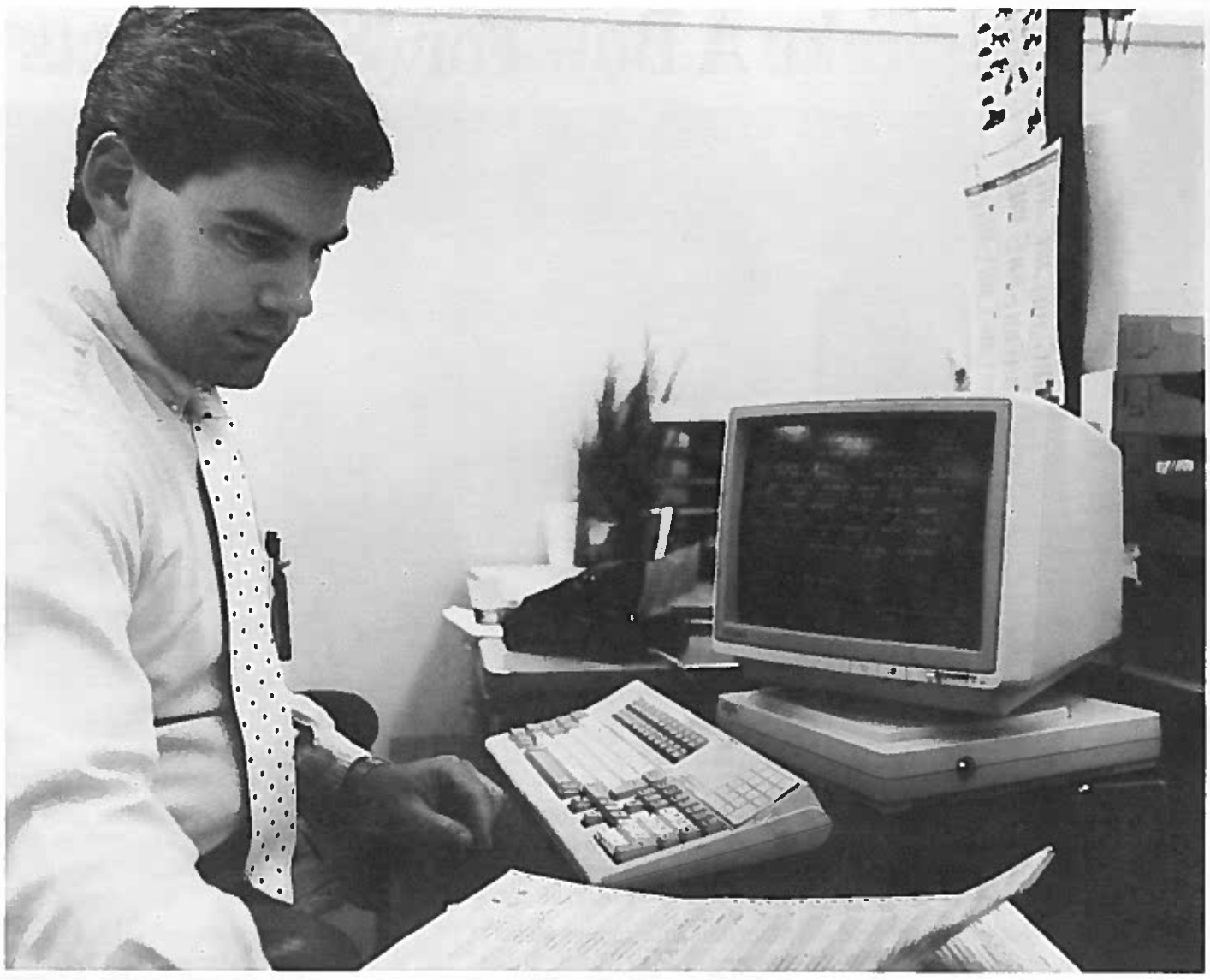
An Easy Find. *The 'Trailblazer's' quality circle project resulted in the development of a computer program that organizes and provides easy access to information about machinery such as serial and model numbers. From the Industrial Systems Engineering Department in Building 30 are: (L to R) Cliff Oppegard, Mike Protasewicz, Mike Redding, John Cataldo, Mike Walters, leader Al Westbrook, Ben Kenney, manager Bill Wolfe, Ed Doyle, and Doug Constantine. Members not in photo: Pat Collins and Chris Vastola. (Photo by Rich Breunig)*

Circle Projects Getting Better

Part of Corporate Training and Motivational Programs, the Quality Circles Program started in 1981. In 1987, policy changes have been put into place to assure that groups work on projects that realize tangible results.

In the past, management did not interfere with the circle's activities. The groups would choose their own projects to work on and often their suggestions could not be implemented because of departmental rules or procedures they were not aware of. To prevent this from happening, monthly status reports are now issued to the managers explaining what the group is working on. Communication between the groups and their manager is encouraged.

"We've seen almost 99 percent of the projects selected by the circles implemented almost immediately since the new policy changes," says Joyce Sparling, administrator of the Quality of Work Life Department.



Where It's At. *Michael Karen in Material Coordination in Building 30 can easily find a part or some raw material and get it to where it's needed in production by using the Material Master File. (Photo by Rich Breunig)*

System Cured Of Terminal Illness

A new Material Master File is up and running and getting raves from Grummanites.

This file automates the process of purchasing, delivering, warehousing and moving purchased parts and raw materials through the production cycle. It replaces the original Material Master File which went on-line in the mid-60s. In its heyday, the old system was considered the state of the art.

Keeping track of purchased parts is paramount. "Purchased parts account for a very significant portion of our products' costs," says Gerry Rabkin, director of Material Systems in the Material Operations Department.

For years, the original system did the job very well. However, as with a dependable, well-loved old car, a point eventually comes when new parts can't be found and the old parts just don't work anymore. "Over the last 20 years, there was a lot of band-aid and patchwork surgery until finally, the programs became obsolete," says Augie Roesler, Data Systems' manager of Industrial Systems and the head of the MMF conversion project.

Service was literally a nightmare. Hardware components had long since gone out of production and finding spare parts required some luck.

There was also the problem of auditability, Roesler says. "We survived audits but the auditors recommended we change the system and beef up security."

"The MMF is a vital part of the company's business," he adds. "It controls the flow of inventory and feeds information to about 25 other systems."

Early in 1985, a Data Systems team of 18 people began designing the new MMF. The goal was to make the new MMF a part of the Information Management System (IMS). This is a network of Grumman business systems that operates on-line through computers in Data Systems' Holtsville, Long Island, Processing Center.

By being part of IMS, the new system has far greater computing power over its predecessor. Any terminal within the IMS has access to the MMF system, provided the user was cleared to get at the data.

The new MMF system went on line July 6. Where there used to be 118 MMF terminals, information can now be gotten through any of 259 terminals in Material Operations or the 2,500 terminals that make up the IMS system.

Response time now averages three to five seconds, compared to 15 seconds or more on the old system. The number of transactions by the users has increased by 20,000 to over 170,000 per week.

Compared to today's computers, the old mainframe was very limited in memory and power and that put constraints on the original computer programmers.

"A column heading needs four or five bytes of storage," says Roesler. To conserve computer memory, column headings were not included in the old MMF software. That alone made the old system difficult to use.

The new system is far more user friendly. Every screen was redesigned. Now there are column headings and a lot more. It takes only a matter of hours to learn to use the screens.

Now backups — the copying of data in case something goes wrong — can be done quickly and often. Before, backups could only be done once a week because the system was so slow. In the past, electronically damaged data had to be recovered by a specialist. Otherwise, inventory information could have been jeopardized. Now, recovery is automatic.

Fay Matthews, a traffic clerk in Milledgeville, Georgia, uses the MMF to process parts that come into Receiving. "The other system would go down and I felt I was in limbo," she says. To get back to certain documents, she'd need to come up with information the old MMF wouldn't readily give her. It meant playing detective.

"The new system is down less," Matthews says. "Inquiries are much simpler, faster and more thorough."

Speed is very important for Jim Diemicke's Material Coordination crew in Building 30 in Bethpage. His 13-member team is on and off the terminals all day. They search for purchased parts that are needed at some point in the manufacturing process. "We've got to go into the MMF to find out where a part stands, so we can go after it and try to expedite it to the right people," Diemicke says.

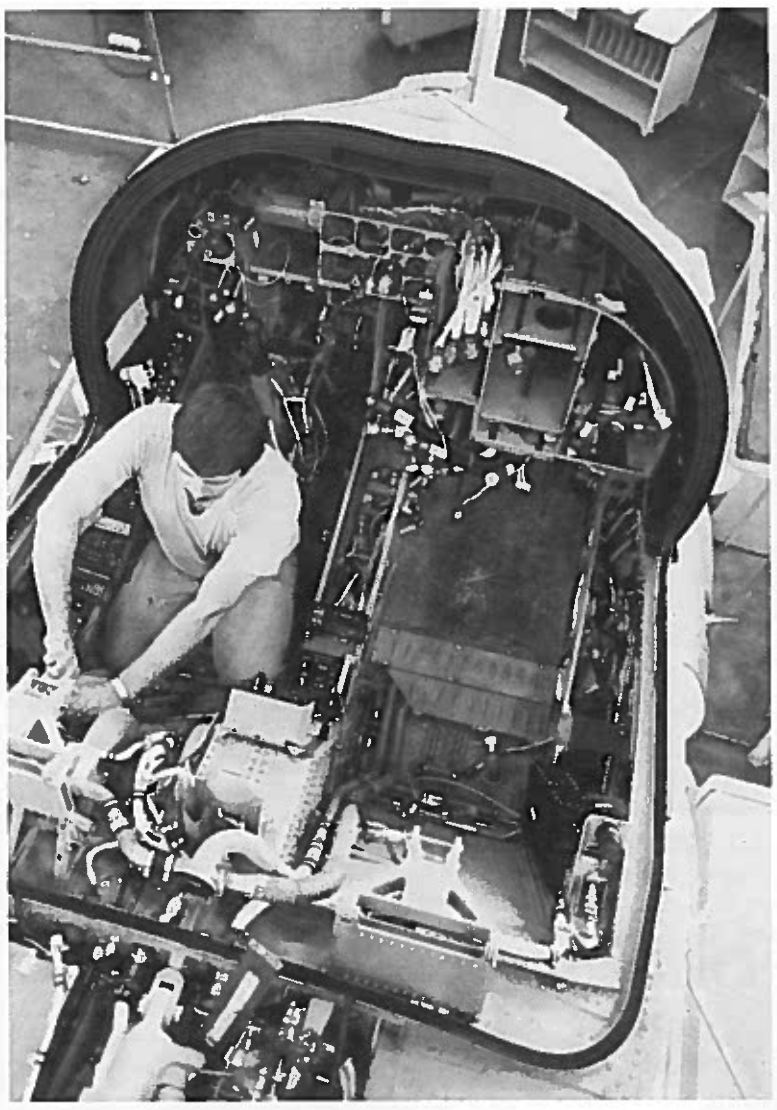
Information pops up on the screen now. The old MMF printed out data line by line by line.

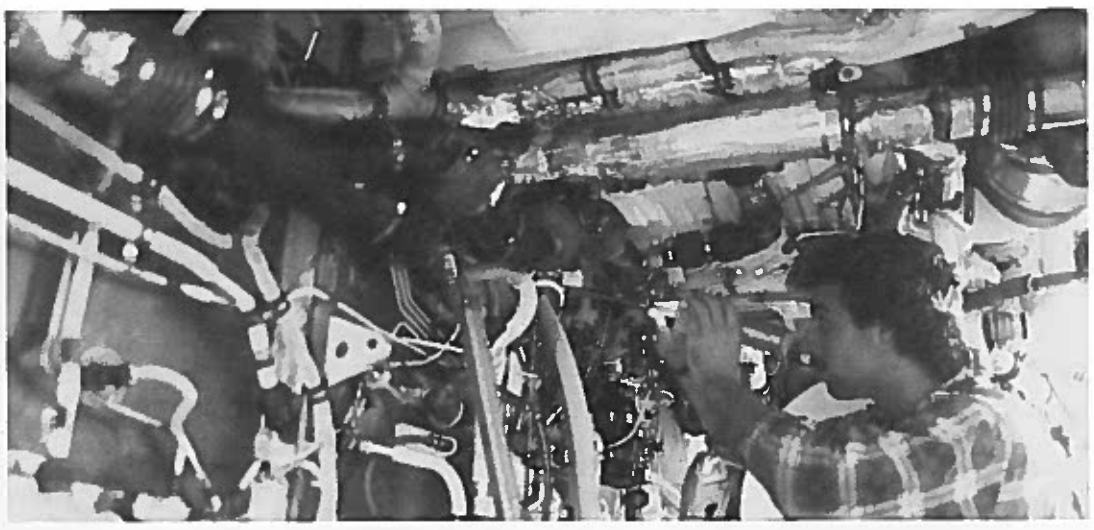
"We make about 5,000 inquiries a week and if you want to hit a lot of numbers, response time is important. The new system about cuts the response time in half," he says.

"On each menu, each column is broken out and titled," says Diemicke. "It's definitely easier to understand, especially when we're training somebody new. For the experienced crew it's a lot quicker."

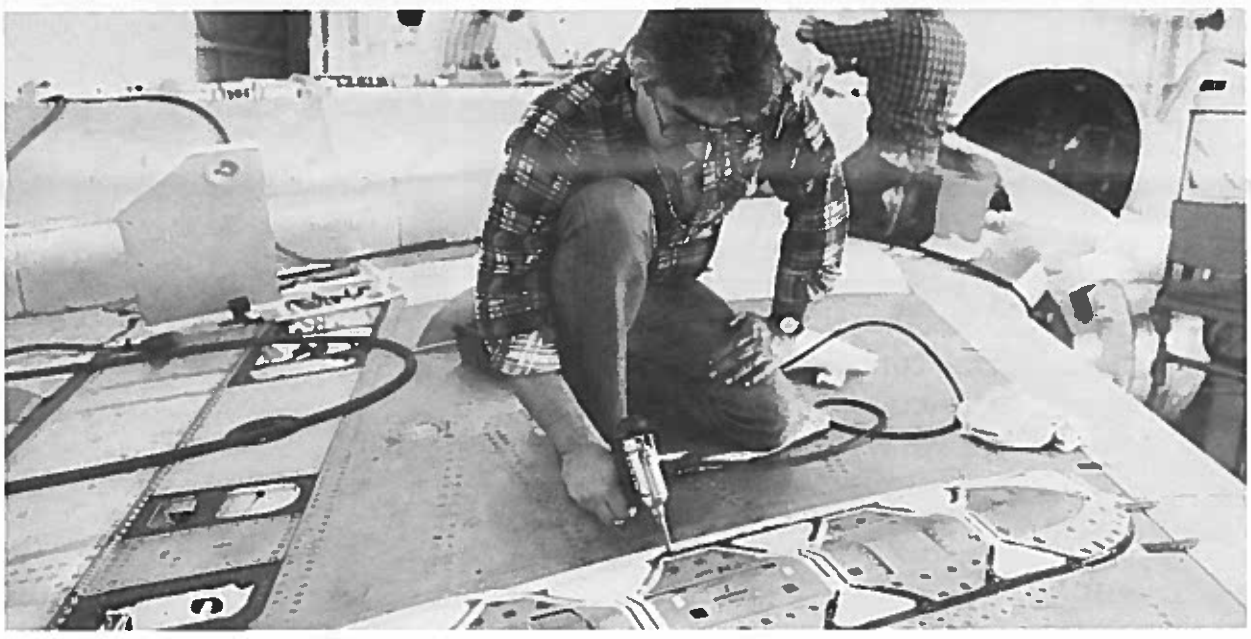
The customer is happy. Says Rabkin, "For what the system is intended to do, it's as good as any system in the industry."■

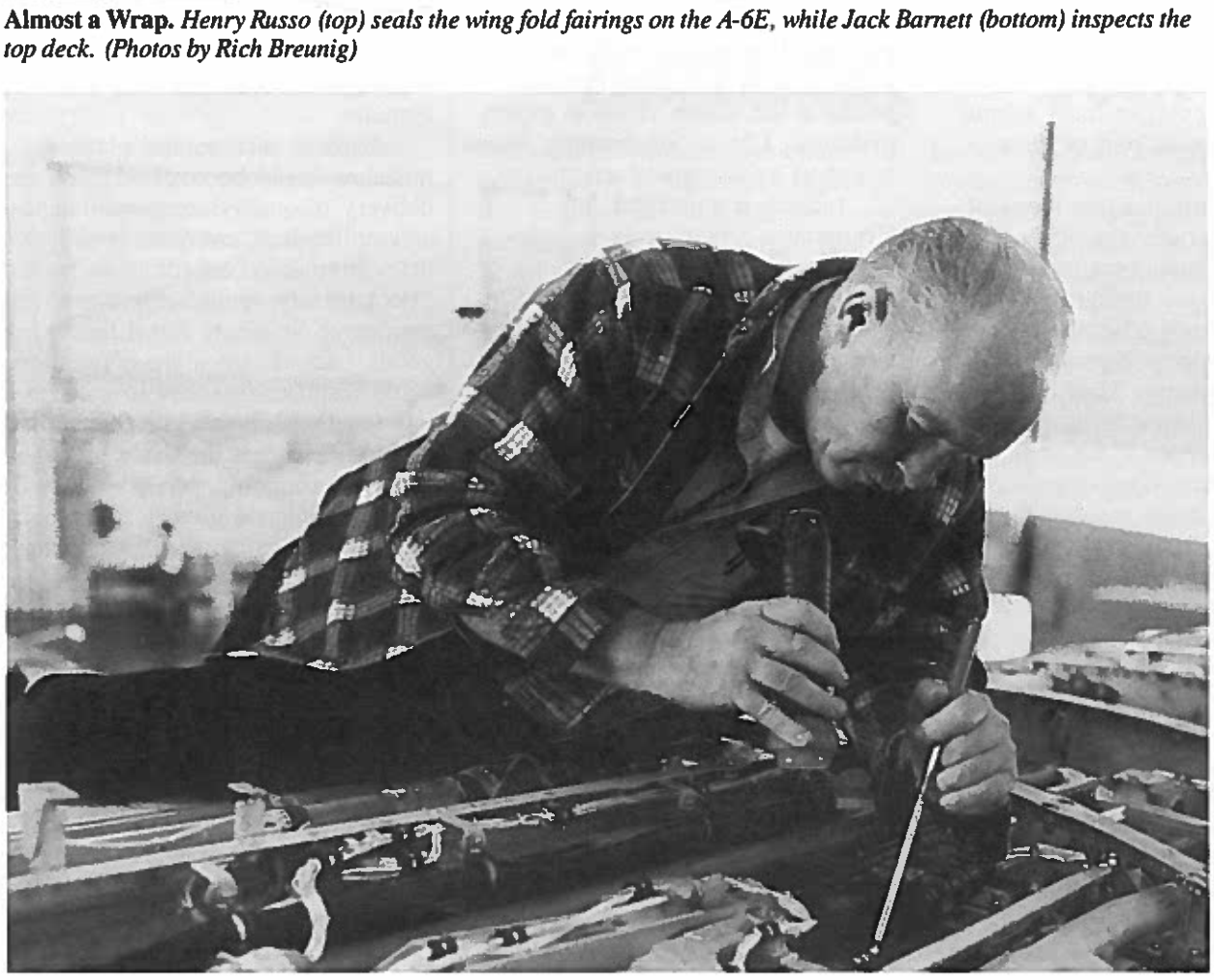
On File. *Bill Koziatek in Building 37 in Bethpage removes a piece of sheet aluminum that will go into the production cycle. The Material Master File makes it easier and faster to know where raw materials and parts are. (Photo by Jim Wagner)*





Flying Soon. *At Calverton's Building 7, Jim Confer (far L) arranges the cables in the A-6E cockpit during final assembly. Robert Getrost (top) looks over the keels before giving the okay to install engines. Steve Vella (L) and Tom Grossman (R) discuss a problem on the plane's canopy deck.*





Almost a Wrap. *Henry Russo (top) seals the wing fold fairings on the A-6E, while Jack Barnett (bottom) inspects the top deck. (Photos by Rich Breunig)*

How They Put The Stuffing In The Bird

One of the more popular requests in Grumman World's readership survey has been for more articles on Grumman people at work. Here is the first of a continuing series about Grumman departments, what they do, and the people who do it.

"We put the heart in the airplane," says Ron Christiansen, production supervisor of A-6E/EA-6B Final Assembly in Building 7 at Calverton Operations (L.I.).

The Grummanites who work in Station 3 are responsible for taking an empty Intruder or Prowler airframe and stuffing it with engines, avionics and flight control systems.

During final assembly, the aircraft are checked from wing to wing and given a final look for proper fabrication and installation. After extensive fuel and hydraulic leak checks, the engines are installed and the throttles are rigged. When an area of the aircraft is completed and the covers installed, Sylvester Blaszkiewicz applies the sealant.

Unless it is sealed properly it cannot go to the paint shop. "If I don't do it right, I'll just have to do it again," says Blaszkiewicz. "I take pride in what I do and I get aggravated when it's not done right the first time."

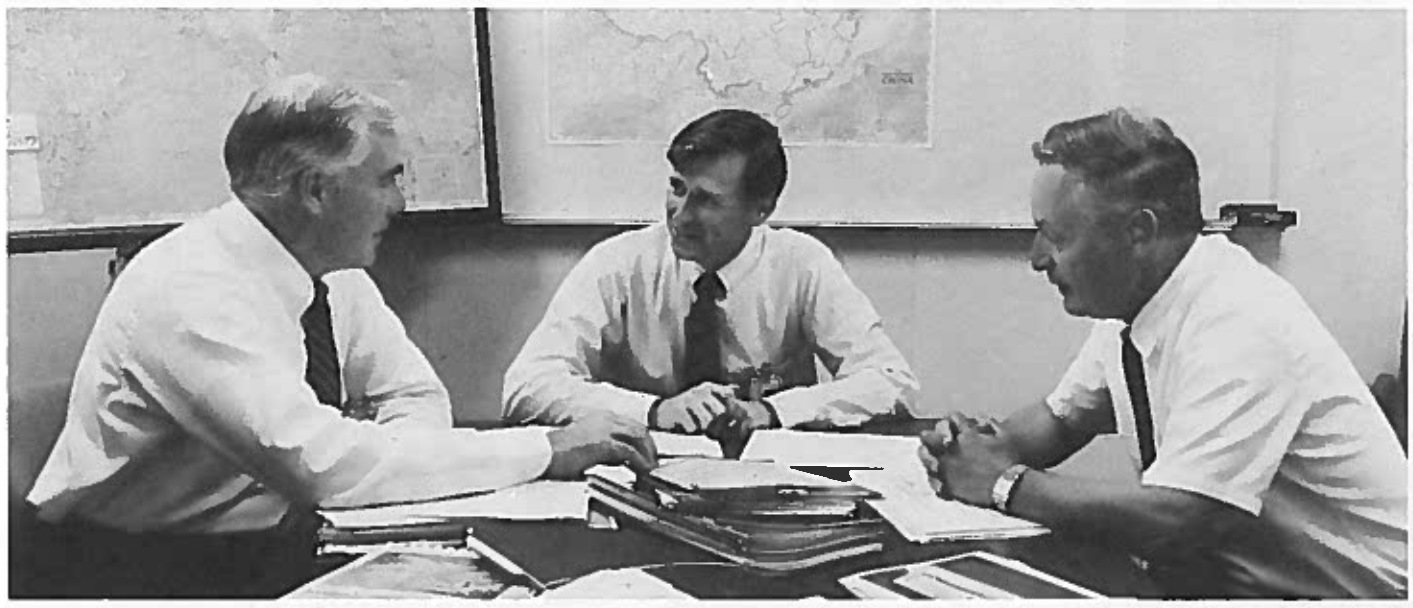
After engine installation, the aircraft is boresighted. This is when the optical sight, radar, inertial, and doppler mounts are harmonized to the airframe. It is a precise optical alignment that allows for no errors as the accuracy of the weapon system depends on it.

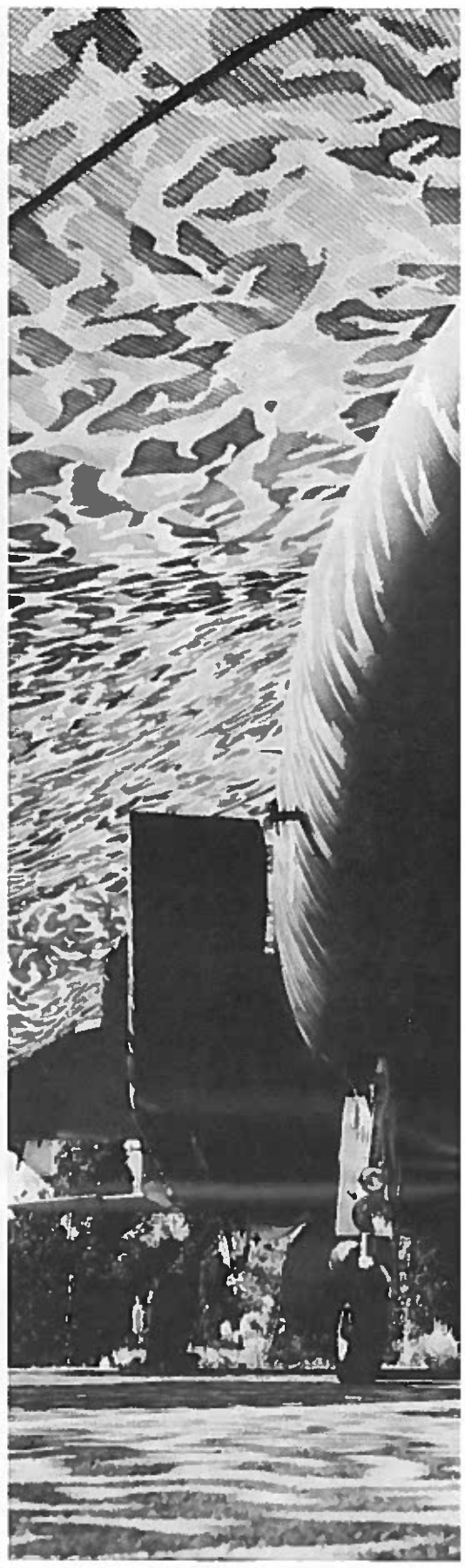
The aircraft is taken outside and given its first tank of fuel. The crew makes sure the system works according to specifications. Engine runs are next. Checks are done to make sure all the mechanical and electrical systems in the aircraft are working.

After a trip to the paint shop, Station 3 gets the plane back to make sure nothing has been disturbed. If it passes inspection, the aircraft is passed on to the next station where it is made mission ready and prepared to fly.

"When the planes leave our area, we make sure they are the best we can get them," says inspector Jack Barnett. "It's a great feeling to see them fly."

"We work together as a precision team," says Richie Yoos, the cockpit mechanic. "If one guy doesn't feel well one day you pick up his slack. That's why we can get the job done with the amount of people we have."■





Foreign Exchange. *(Above, L-R) Bill James, director of special programs; Mario Boltri, director of offsets; and Fred Raymes, vice president—programs for Grumman International discuss offsets for China's Peace Pearl contract. At right is an Israeli-made camouflage net being tested by the U.S. Air Force as the result of a Grumman offset effort. (Above photo by Bob Settles)*

Offset Programs Help Clinch Grumman's Foreign Military Sales

BETHPAGE, Long Island — "We have to play the game the rest of the world plays," says Mario Boltri, director of offsets for Grumman International. "If we didn't, we wouldn't survive in the world marketplace."

The "game" is offsets, a form of compensation for foreign sales of military equipment, aircraft, and other large-ticket products. A typical contract states that a percentage of the sale price of the American product must be offset by purchases from the customer nation or by a variety of collaborative activities, such as export development, joint ventures and manufacturing subcontracts.

The offset began as a way to help Europe rebuild its defense industry after World War II and at the same time, help domestic military suppliers sell overseas. Offsets have since become a fact of life in foreign military sales. Last year, the U.S. had a total gross national product of about $4 trillion and exports of over $200 billion. Total defense exports run about $9 billion a year with annual offset obligations in the vicinity of $3 billion.

'Developing countries aren't the only ones that ask for offsets.'

"Offsets used to be a sweetener for international sales — now all foreign customers demand offsets," Boltri notes. "Furthermore, developing countries aren't the only ones that ask for offsets. England, France, and Canada, for instance, ask for more than anybody."

Grumman has increased its involvement with offsets over the past 12 years. The company currently has offset agreements with Israel, Singapore, South Korea, and the People's Republic of China, and is now negotiating one with Pakistan. In the past it has developed offset programs as part of proposals to Canada, France, England, and Australia.

As an example of one offset, Grumman obtained office chairs, marble floor tiles, and raised flooring for computer facilties. These were installed at Grumman Headquarters in Bethpage. In another case, Grumman successfully marketed the services of the European Ariane space launcher to U.S. firms seeking to put satellites in orbit. Machinery and cutting tools were imported for Grumman and other U.S. manufacturers.

About 20 U.S. allies have adopted policies requiring offsets and countertrade. Canada and South Korea currently have the stiffest regulations. To illustrate how the requirements have changed, until three years ago, offsets were negotiated with South Korea's Ministry of National Defense after a sales contract was awarded. Now, all bidders on a contract must submit offset packages as part of their proposals.

In the hotly debated arena of international trade, the offset has its critics. Some members of Congress maintain that the foreign goods obtained through offsets undersell domestic products, hurting American industry. They also have charged that co-production agreements reduce U.S. jobs because work is done overeas.

"Offsets make a program viable," says Boltri. "For instance, co-production may allow a developing country to obtain an aircraft without draining its cash reserves. If we don't do it, either they won't buy the aircraft at all or some other company, from any of a number of countries, will step in and accept the offset conditions."

Grumman joins the critics on one point: defense firms should not accept unbalanced deals. There have been several recent cases where Western European nations negotiated offset deals in excess of 100 percent with American firms. "That means for every $100 of merchandise we sell to them, we must offset more than $100 for the benefit of that country," says Boltri.

Grumman develops offset packages with its own business and expertise in mind, and follows U.S. government rules. Well before a foreign sales contract is inked, Grumman sends in teams of technical specialists to conduct an industrial survey.

An offset program counters the drain on a country's economy, boosts employment, and gives it a technological edge.

The survey team identifies the country's strengths and searches for products that would be competitive in the U.S. It also identifies those products the nation views as export priorities; China, for example, wants to export aviation products.

Indeed, a major part of Grumman's foreign military sales involve avionic systems. Because of the increased demand for offsets by foreign countries, Grumman is now asking its suppliers to shoulder some of the offset burden.

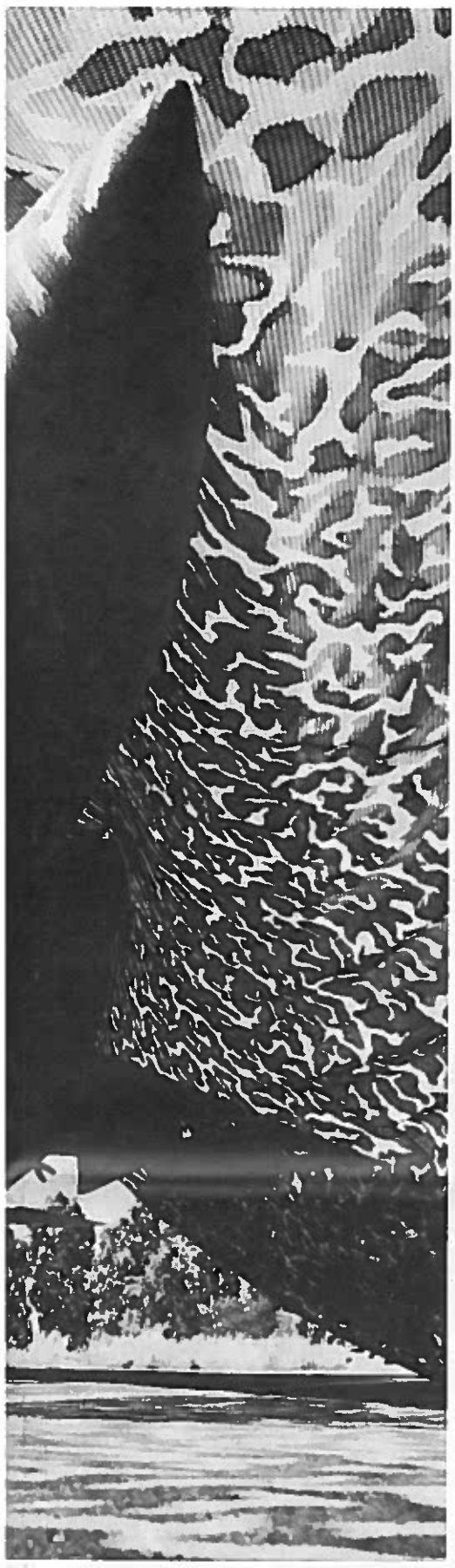
Most of today's offsets are not traditional exchanges of goods, but rather, technology transfer, co-production, joint ventures and licensing. Countries have an eye toward self-sufficiency: these nations do not want to rely on the U.S. indefinitely for all of their military equipment. They prefer to do as much of the component manufacturing and aircraft overhaul work themselves as they can.

For such arrangements, even more detailed research is necessary. The Grumman teams must study the country's entire industrial infrastructure. This includes availability of raw materials, manufacturing capabilities and know-how, and transportation systems.

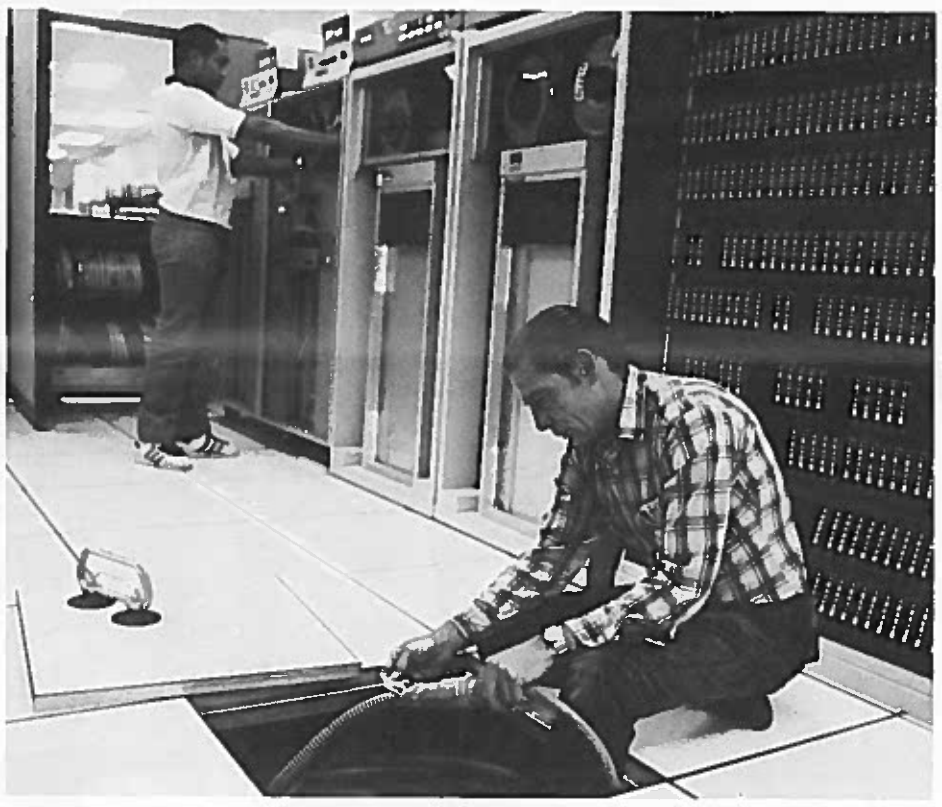
Without such careful planning, mistakes would be costly. Delays in delivery of quality components and assemblies from overseas could delay production schedules at home. "Poor quality could hamper a company's ability to resell the goods," says Boltri. "Such situations could result in financial losses."

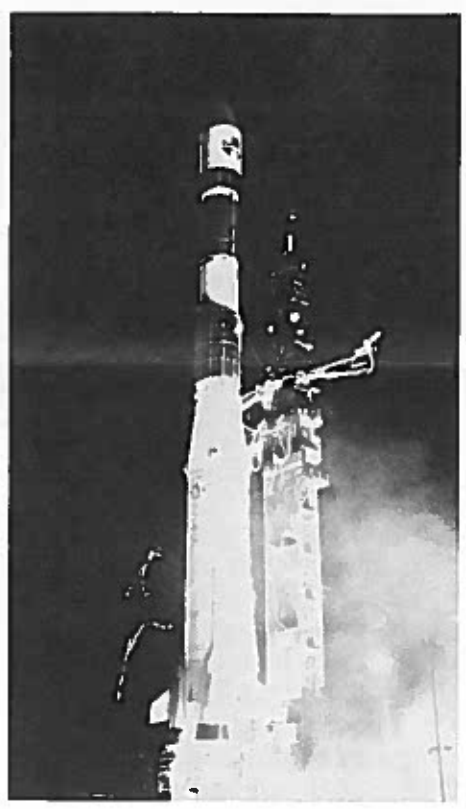
For the foreign nation, an offset program counters the drain on a country's economy, boosts employment, and gives it a technological edge. But there are benefits for Grumman as well. The company can obtain necessary materials and supplies at lower costs.

An offset can also be a springboard into brand-new markets. Last spring, Grumman opened a computer aided design and manufacturing (CAD/CAM) center at a major Singapore university. GINTIC — the Grumman International-Nanyang Technological Institute CAD/CAM Center — is



Technology Transfer. *The offset takes a variety of forms. (Above) Earlier in '87, professors from Singapore took a six month training course at Grumman. Shown are (L-R): Jow Hai Sing; Lai Weng Kee; Col. Loo Jong Wei; Richard Friedman, an instructor from Grumman's Structural Mechanics group; Lee Kien Kong; and Thom Chong Fong. (Below L) Robert Kersey and Bob Guido do repairs on a computer in Grumman Headquarters; the floor is an offset item. (Below R) Grumman marketed the services of the Ariane space launcher.*





both a learning institution and a source of software talent for private industry.

Boltri points out that Southeast Asia is booming economically, and that has brought a boom in computer installations. It lags, however, in computer systems integration expertise — which is Grumman's forte.

"Now, the Singapore government is talking with Grumman Data Systems about integrating all of its computers and software, as well as leasing and servicing a Cray computer," he says. "A private firm there is interested in computer integrated manufacturing and other countries in the region want CAD/CAM systems."

Boltri's group is now working on offset packages that will accompany proposals Grumman will make to Pakistan, Australia, Brazil, and Greece. "When you develop a reputation for fairness about offsets, other countries hear about it," says Boltri. "It pays off in the long run — the opportunities in the global market are enormous."■

Bartering — 20th Century Style

Webster's Dictionary gives one definition of an offset as "anything that balances, counteracts, or compensates for something else." In its simplest form, two countries engage in the ancient act of barter. The American firm sells its goods to a foreign nation, accepting in return one of that country's products as payment.

But in today's world, offsets usually take a more complicated form.

Technology transfer is an umbrella term covering a variety of agreements in which American technology is provided, for a fee, to friendly developing nations. A company can conduct research and development overseas. Technical assistance can be provided to governments and educational institutions. American and foreign firms can form joint ventures.

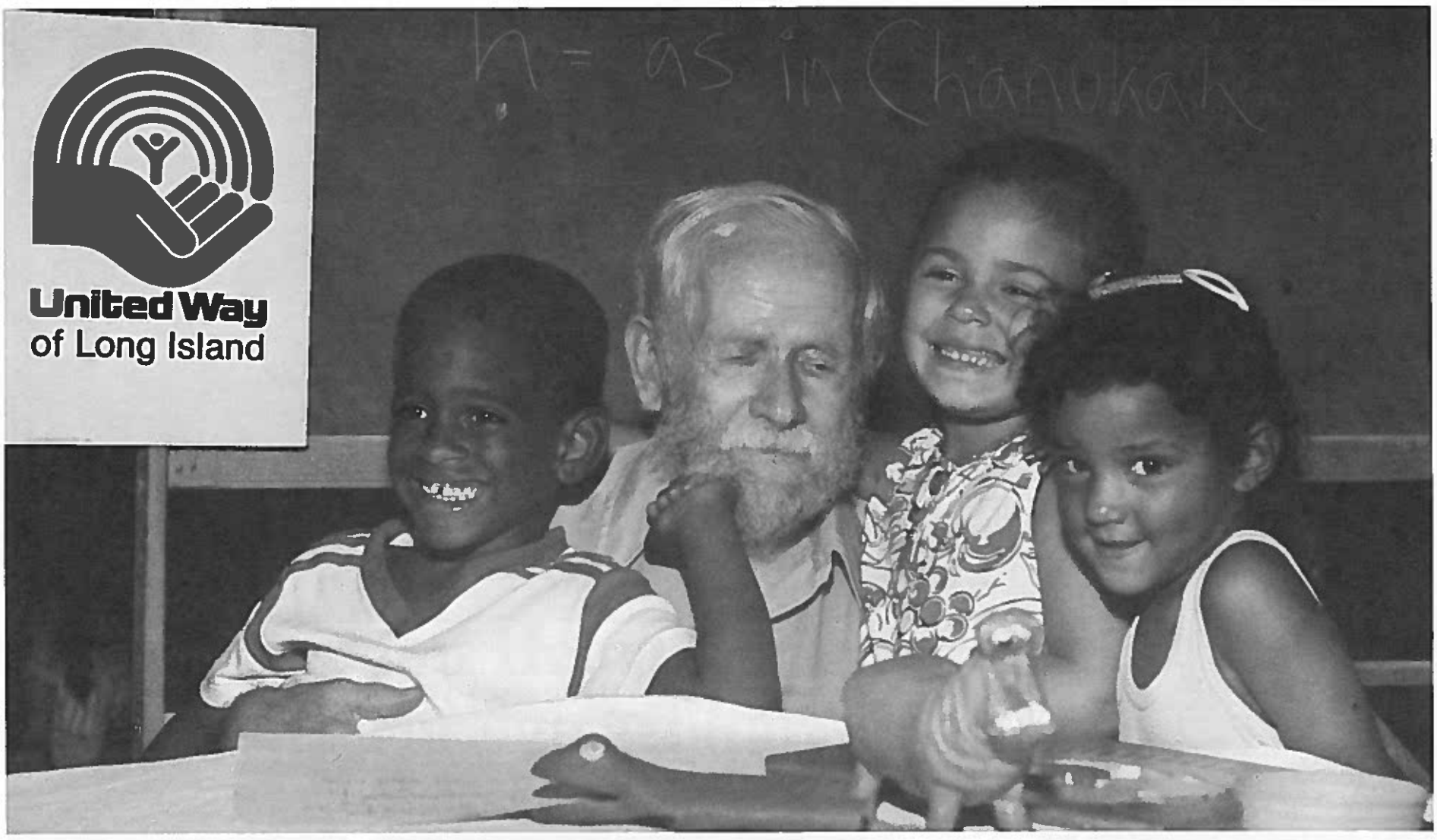
Stateside training can also be a type of technology transfer. Earlier this year, engineering professors from Singapore took a six-month training program run by Grumman Aircraft Systems' engineering department in Bethpage.

Licensed production means pretty much what it sounds like: the design of an American product is licensed to an overseas firm or governmental entity. Grumman is now negotiating with the People's Republic of China to license designs for fire protection equipment.

Co-production speaks of producing major parts of a product overseas. The proposed Sabre II aircraft for Pakistan's Air Force is a good example. If the plane goes into production, Grumman will coordinate the project and build the forward section, the Chinese will build the aft and wing sections, and the Pakistanis will join them together and install the engines. Pakistan could also make the plane's air inlets and doors.

Offshore sourcing involves the manufacture of goods overseas. Grumman can have its products made offshore or it can put other U.S. companies in touch with foreign suppliers. A company on Long Island that purchases evaporators and condensors would like to obtain these from China. This could be credited as an offset towards the Peace Pearl program, Grumman's $315 million contract with China for upgrading the avionics of the F-8 aircraft.

Some experts consider offsets a form of *countertrade.* However, Grumman treats countertrade as a separate type of trade, involving non-military goods and less costly items. Grumman gets less involved in countertrade agreements. Generally, offsets require more study and are subject to tighter U.S. government controls.



Lean On Me. *The Jewish Association for Services for the Aged (JASA), is just one of many United Way participating agencies that offer all generations a variety of program activities. At JASA's Long Beach center on Long Island, local children regularly visit with the senior citizens.*

Your United Way Donations Stay In Your Neighborhood

Whether it's bringing a runaway child back home, preparing a hot meal for an elderly person, finding shelter for the homeless, or caring for the sick, 80 percent of all Grummanites have found a reason to give to the United Way.

This fall just about all Grumman locations will kick off their 1987 United Way campaigns. Nationwide the United Way funds over 37,000 programs and services, helping tens of millions of people in over 2,300 communities.

Each local United Way organization spends the money it collects on agencies and hospitals in its own neighborhood. Eighty-two cents from every dollar collected goes to the various care providers, the remainder for administrative costs. To ensure that funds are distributed fairly, the United Way sets up a committee of volunteers to review agencies that apply for funding. The committee spends three months, 10-12 hours a week, reviewing applications.

One way your contribution helps is by enabling care providers to open centers in more areas. They can then reach more people: many who rely on agencies for help are without cars or other means of transportation.

"People need to be able to reach the centers for help," says Gordon Gibson, United Way of Long Island's vice president of marketing and communications. "But that means more agencies to support and more money."

Grummanites have a variety of reasons for contributing to the United Way.

"There are so many charities that need help," says Eileen Hendrix of Aircraft Systems. "When I give to the United Way I know I am reaching a lot of them."

"I have a job, and a very healthy family," says Sharon Childress of Electronics Systems. "I feel we all have an obligation to help those who are less fortunate. My husband also works at Grumman and he gives too."

Helen Hewes of Data Systems points out that many organizations now receive less government support. "These groups depend on contributions from United Way to survive," Hewes says. "I would never let them down."

When tragedy hits home, the need for the United Way becomes more apparent. Grummanites who have lived through such circumstances are always willing to give. John Steffen of Aircraft Systems had a niece who died of leukemia when she was six. The United Way funded the hospital where his niece stayed. The United Way also funds organizations working on a cure for leukemia and other cancers.

"I want people in the same situation to get the help they need to pull them through their problems," he says. "If giving a little from my paycheck each week can make that happen, it's more than worth it."■

Happy Together. *The United Way funds many agencies that provide meals for senior citizens. At the Doubleday Babcock Senior Citizen Agency on Long Island people gather for lunch.*

United Way Drives Near You

On October 12, Grummanites will receive a United Way package through the payroll department. It will have information on agencies the United Way supports. There will also be a card for enrolling in the payroll deduction plan.

During the drive, Grumman representatives will ask those who don't participate in the payroll deduction plan to do so. They'll also ask those who do to increase their contribution. Grummanites may also make a one-time monetary donation.

The United Way campaigns at the larger Grumman facilities nationwide will take place on the following dates:

Long Island, N.Y.
October 12-30

Glen Arm, Md.
October 12-30

Irvine, Calif.
October 12-30

Mayfield, Penn.
Sept. 16-Nov. 13

Montgomery, Penn.
September 17-30

Roanoke, Va.
October 8-21

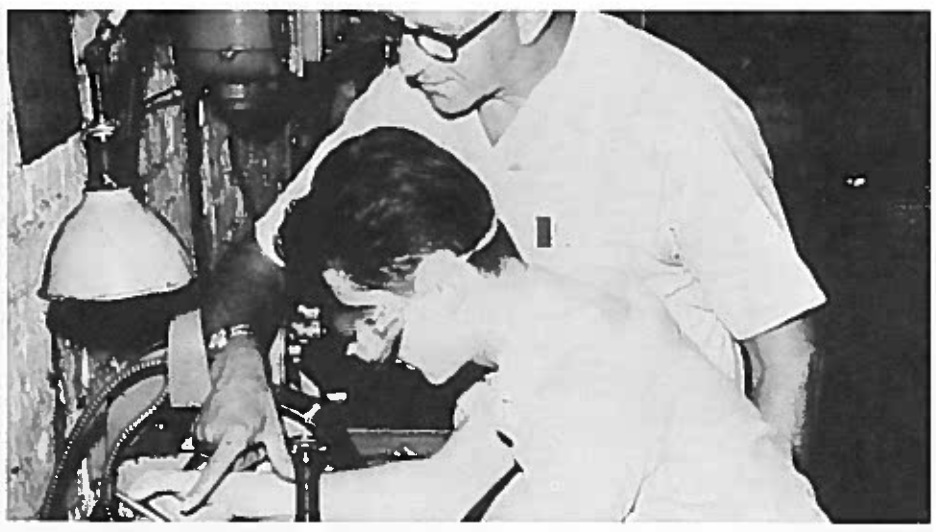
St. Augustine, Fla.
October 12-30

Stuart, Fla.
October 12-30

Sturgis, Mich.
Sept. 28-Oct.9

Houston, Tx.
Space Systems
October 19-23

Milledgeville, Ga.
October 21-31



A United Fund. *During workshops at The Association for The Help of Retarded Children (above), pupils are taught trades and placed in community businesses. At The Long Island Hearing and Speech Society (below), diagnostic treatment is provided for the hard of hearing and speech impaired. The United Way also helps fund the Girl Scouts of America (L).*

Centennial Run

Nineteen Eighty Seven is the Centennial Year of the United Way. The first coordinated community fund raising is traced to 100 years ago in Denver, Colorado.

On October 11, the Hauppauge Industrial Association (HIA) is dedicating its first annual run to supporting United Way of Long Island in recognition of the United Way's anniversary. There will be simultaneous one- and five-kilometer runs.

The run will begin at 9 a.m. sharp at the Hauppauge Industrial Park on Long Island. As many as 2,000 runners are expected to participate. Runners can apply for entry until October 10, the day before the run.

For more information about the Centennial Run, contact John Donohue, United Way of Long Island, (516) 249-1100.

First Call

First Call For Help is an information program of United Way of Long Island. All Long Islanders can call this one telephone number for information about human services available in Nassau and Suffolk Counties. They can also call for information about where friends and relatives outside the area can locate a United Way community. The number is: (516) 249-1100.

An Apple A Day. *At the APPLE (A Program Planned for Life Enrichment) agency, people with substance abuse problems can receive help through the center's in- or out-patient service.*

APPLE Helps Kick The Habit

"Drugs work. That's why people take them. They work fast and efficiently, providing immediate gratification," says Mark Howard of APPLE.

APPLE (A Program Planned for Life Enrichment) provides both in- and out-patient services for those with substance abuse problems on Long Island. It has an 85 percent success rate. Founded in 1971, APPLE is funded in part by the United Way.

APPLE's services are becoming increasingly vital to Long Island, which is second only to Manhattan (in New York State) in incidences of substance abuse.

APPLE's treatment is centered on helping people create a realistic view of life with all its imperfections. And they will help anyone who needs it. "If you have a drug problem, you can come here. We don't take insurance. We just help," says Howard.

Marie, 14, is one of the people APPLE "just helps." Her aunt works for Grumman.

"I started young — when I was 7 or 8, with things that smelled good and made you feel dizzy, like paint thinner," says Marie. "When I got older, I started drinking alcohol and stealing prescription pills (speed) from my father. Then I began smoking pot.

"Two days before I came to APPLE, I gave a friend $100 to buy me some coke. Just two more days and I would have been a cocaine addict," Marie says.

She attributes her substance abuse to a number of factors: peer pressure, and family problems she didn't want to deal with. "I also felt a lot of school pressure: my grades were never high enough to please my teachers. I always felt like my best was never good enough," she says.

Her habit required money. A lot of money. And stealing was the only means Marie had to support it.

"I stole money from my father. Then I started sneaking out of the house at one, two o'clock in the morning to find unlocked cars. I'd steal money, denim jackets, cassette players, whatever I could find. I never stole from my mother, though."

Marie's parents have been very supportive during her stay at APPLE. "They don't want me home unless I'm clean because they don't want me in the house the way I was before. They're happy that I'm here, and they understand that it's hard," she says.

As for life after APPLE, Marie sees a bright future. "I want to finish high school, then go to college and study oceanography," Marie says. "But, more importantly, I see myself as being a different kind of person. I see myself as a kind and understanding person that shows love and concern for other people. Someday, I'd like for my kids and their friends to feel like they can walk up to me and sit down and talk because they know I will listen and show them they are loved."

For more information, contact APPLE at (516) 979-7300, or write to P.O. Box 402, 220 Veterans Highway, Hauppauge, New York 11788.

Better Than Extra Credit. *The Production Leadership Development program aims to train well-rounded leadworkers and foremen by rotating them throughout the aircraft manufacturing world. At L, Rich Migliorisi and Ed Essig inspect a hydraulic line. Far L, Larry Sisco machines an aircraft part. Above, Dick Wolters and John Schultz examine a stretch die for the Gulfstream IV nacelles. Al Schmidt (upper L) touches up a painted part, while (C) Jeff Plummer demonstrates the high-pressure press for Lee Lyman. (Photos by Bob Settles and Rich Breunig)*

Trainees Learn The Nuts And Bolts Of Supervising

In 1986, Aircraft Systems' Production Operations set up a training program called Production Leadership Development. By working at variety of jobs at Grumman manufacturing centers, trainees become well-rounded candidates for posts as leadworkers, and later for higher supervisory posts.

The program benefits both the trainees and the company. The Grummanite has an opportunity to move ahead; the company is better able to meet staffing needs.

The program's first graduates — Ed Essig, Jeff Plummer, Larry Sisco, Al Schmidt, and Richard Wolters — have all earned promotions.

"In my area, a lot of the people are either getting ready to retire or have already gone," says Plummer. He is now a leadworker for the Pride Line in Building 2, Bethpage, which produces small detail parts such as brackets and clips in high volume. "You need a good supply of people who can take their place as supervisors. This program helps train that next generation of management."

During the 18-month program, the five men worked on a variety of assignments in Bethpage, L.I.; Glen Arm, Maryland; and Milledgeville, Georgia. The jobs ran the gamut from detail parts-making to the final assembly of aircraft. The trainees also visited some development facilities, such as the Building 14 Engineering Development Center, and the Model Shop in Building 5.

Throughout the program, they handed in detailed reports and made oral presentations about their experiences.

Their work assignments covered both sides of the manufacturing world: they would spend one month in a shop, then one month behind a desk or computer terminal. Most of the territory was new to them. They also learned about the Grumman Engineering/Manufacturing System (GEMS) and the cost-tracking computers now used by Grumman manufacturing centers.

"Increasingly, computer skills are needed at every level in manufacturing, since most of the newer equipment is numerically controlled," says Sisco, now in Machining Ops. "In Machining Ops, all the processes and graphics will soon all be produced on GEMS. The person who is familiar with these systems really has an edge."

At each stop along the way, the five trainees compared textbook management with supervision in action. "We would assess the good — and bad — points of each manager's methods," Essig says.

However, their best lessons came from solving everyday problems for their host departments. "Dealing with different areas, different departments, is a tough job," says Schmidt, who now works alongside Sisco in Machining Operations. "Even though the management was behind us on these projects, we didn't think that we had a guarantee that people would cooperate with us. We had to learn how to win their support."

All the trainees feel people need to see the finished product — often. "A few years ago, I was working hard one Sunday making dies," says Wolters, a Machining Operations leadworker. "The foreman saw us, made us take a break, and took us over to see an E-2C in Building 4. I felt motivated by that more than anything else in my years here."

Enrolling in college is mandatory. Trainees take as many courses as they can handle. Wolters and Sisco are manufacturing/engineering/technology majors, and Plummer is a business administration major. Essig studies computer science, while Schmidt is majoring in engineering. All their courses are covered by the company's tuition reimbursement program.

"I was doing electrical work, a trade I learned in the Navy," says Essig, now acting foreman of the Hydraulic Sub-Assemblies group. "I wasn't satisfied and felt college was the way to better myself. But a college degree alone isn't enough. In any part of the manufacturing world, you need to have shop experience."

Plummer agrees. "It's important for those in management to understand what goes on on the shop floor. When a problem crops up, you have to be able to go out onto the floor and help solve it."

Three trainees now hold associate's degrees and all eventually hope to get a bachelor's. Their college work gives them the necessary background in various scientific and technological disciplines.

Essig, Plummer, Sisco and Wolters eventually hope to move into production management. None of the trainees viewed the program as a way to leave the shop behind entirely. Schmidt would like to work in an engineering support area where he still maintains close contact with the shop. Pure design work is not for him.

During their visits to different work areas, the five trainees generated a lot of interest in the Production Leadership Development Program. The Manufacturing Department will review applications in the near future and will select the next group of trainees soon after.

To be eligible for the Production Leadership Development Program, you must work for Grumman Aircraft Systems' Production Operations, have five years' experience, and be enrolled in college. You should let your supervisor know if your are interested, because he or she must recommend you for the program. You will then be interviewed by a selection committee made up of managers in Product Operations.

For more information, contact Angela Ingino, administrator of Training and Affirmative Action for Bethpage Operations, Ext. (111) 56543; (516) 575-6543.■

Would You Be Willing To Pay More Taxes To Reduce The Federal Deficit?

Benjamin Franklin once said, "In this world nothing is certain but death and taxes."

Grumman World asked Grummanites in Building 30, Bethpage, if they would be willing to pay more Federal income tax if doing so would solve the national deficit. With this year's deficit projected at approximately $150 billion, Congress recently amended the Gramm-Rudman bill and President Reagan signed it. Via automatic budget cuts, the budget would be balanced by 1993. Some elected officials have also called for tax increases at certain income levels. What do you think?

Jim Canova

No. I think the Federal government should cut back on a lot of the waste instead of raising taxes. J. Peter Grace headed a study for the Federal government which found over 600 ways to cut down on waste. The government just tossed it in the garbage can and didn't make use of it at all. Spending cuts have only been superficial, really, when you look at them. If the government wants to spend the money instead, why should I pay more taxes?

Agnes Izzo

There are certain income levels where the government should raise people's taxes. The tax structure just isn't equitable. As far as budget cuts are concerned, the government has cut too much in some areas but not in others. I think a lot has been taken away from the poor without justifying it by also cutting programs that benefit other groups. Cuts have mainly hurt the people that already don't have anything. It's very complicated...I realize programs have to be cut, and there are a lot of undeserving people on some programs. But unfortunately, it's the people that really need these programs that are getting hurt.

Mildred Galgano

I would gladly pay more Federal taxes, though it would be difficult. Where else is the government going to get the money, but from the people? I don't know what else it can do. The current administration has already cut back on a lot of programs that are important. I think they've cut in the wrong places. If it would level things out, maybe it would be a good idea to raise taxes.

John Paschier

I would if it were going to be used strictly for that purpose. But if the money went into a general account, no. Why don't we have a national lottery? At least half the states now have a lottery. They are very successful at raising money for their governments. Any money raised should be put aside only to be used to reduce the national debt. If it went into the general treasury, everyone will say, 'Oh, good. We've got more money in there, let's pull it out again for whatever we want.' You know how it usually works: budgets just creep up.

Sherri Wise

I wouldn't mind it for a short period of time, say three to five years. After that, slash the taxes down. I definitely feel there are areas where the government could spend less, such as lending to other nations. We should help ourselves a lot more — those other nations do. I wouldn't cut the defense budget because right now our military needs that funding. Also, I believe there will be some conflict in the near future where we will need our military forces.

Bob Agee

The government ought to stop spending money now rather than make us pay for everything. It has to make some tough choices on where to spend the money, whether for defense, welfare or anything else. Plus, the way it does business is very inefficient. There's a tremendous amount of waste. I work in the environmental field and we're saddled with all sorts of things that could be done better if the government wrote the regulations differently. Plus, the way programs are staffed is too expensive — look at the Superfund. There are tremendous overruns. Unfortunately, nobody minds the store so everybody has to pay.

Liz Weinhardt

It would depend on how much more and if the government could guarantee that it would help solve the national debt. It would also depend on whether the tax went up percentage-wise or everybody was charged the same extra amount. It wouldn't really kill anybody to pay 1 percent more. I think if the government tried, it would get a lot of flak. Everyone hates taxes, taxes, taxes...but something has to be done to solve the national debt. If they could just wipe it out and start again that would be wonderful. But we know that can't happen.

Terry Mitchell

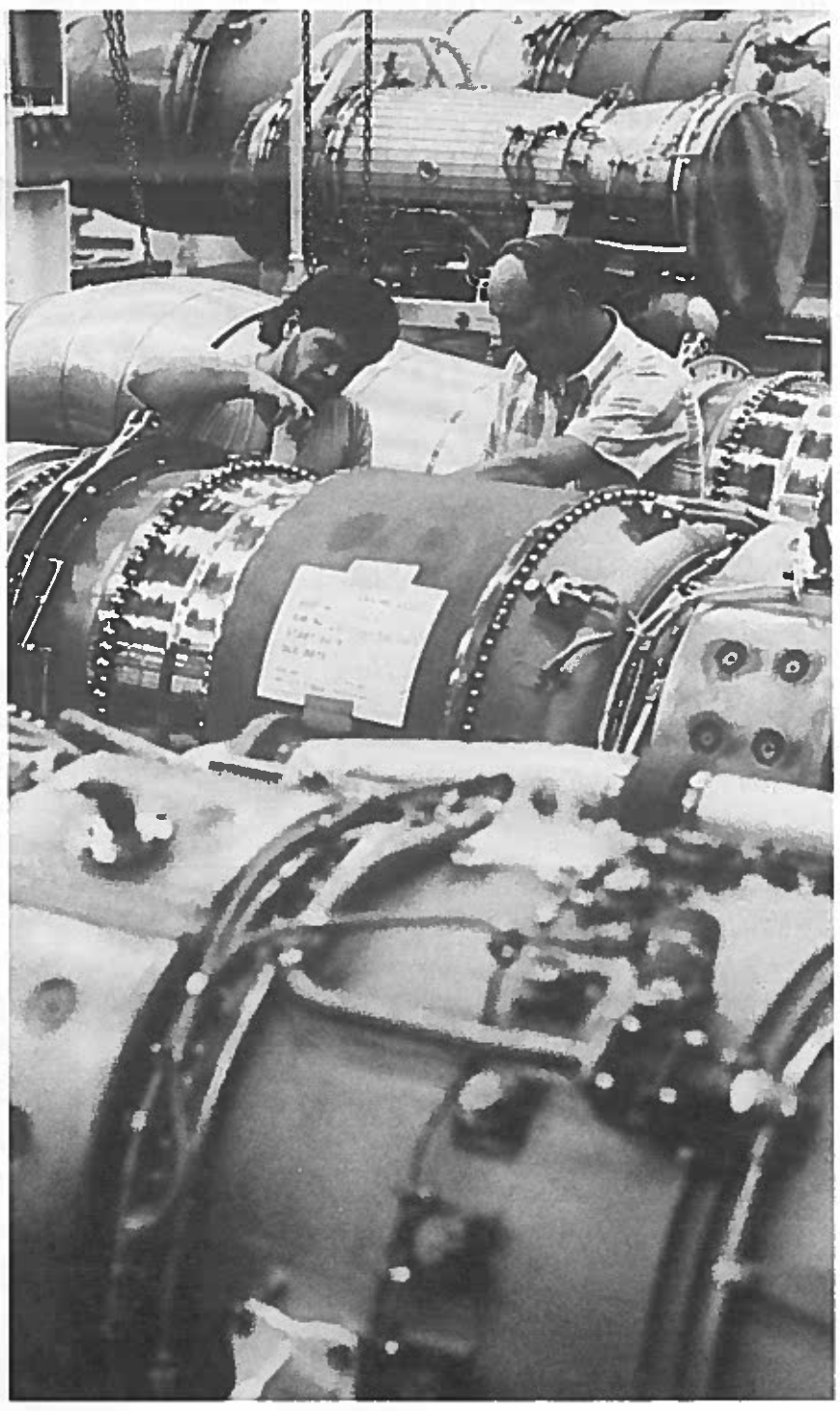
I would definitely be willing to pay more taxes if I knew that more of my dollars were going toward domestic use rather than foreign aid. We could probably cut the deficit and spend more money on housing, child care, and health. We're going to have taxes anyway. If I knew that our tax dollars were going to be spent that way, I wouldn't mind paying those extra dollars at all. We spend a lot of money every year on foreign aid for countries that have a tendency to go bankrupt, which is a loss for the United States. I think half of Americans wouldn't mind paying more if they could see it benefit our own people.

Peter Ivy

Yes, I would — if the government finds a way to earmark the money specifically for that and not divert it somewhere else, as Congress has had a habit of doing. I think there are quite a few people who would go that route — although generally, I am against increasing taxes. If you give it more money, the Federal government always has found a way to spend even more — and spend us into the hole. But if there was some way to control it, so you could get a special fund set aside for the taxes, I would go along with that.

Dave Russell

That's a very difficult question. My feeling is that something has to be done about the national debt. Whether increased taxes are going to solve the problem, I really couldn't say. If the government could guarantee that the revenue goes towards paying off the deficit, I think I'd be in favor of it. But I still don't see why it can't come out of the existing income taxes. We could dedicate a portion of our tax dollars for a fund, the same way we do for the Presidential Campaign Fund.



No Air Bubbles Allowed. *Jim Simms (L) and Orlando Pastor from the Engine Shop of Building 6 in Calverton do a PT7 check on A-6 engines waiting to be installed. Air is pumped into the PT7 hose which is an air sensing line that runs through the engine. Leak detection liquid is then poured over the joints of the engine to test for possible air leaks.*

Everybody Has An Opinion, And We Want Yours

Grumman World's Annual Report For Grumman People will be distributed in December. As part of that year-end special issue, we'd like to know what you think about the following topics. The results will be published in the December issue. You can participate in this informal survey by filling out the questionnaire below and mailing it to: *Grumman World*, C14-05, no later than October 30. Thank you for your help.

How would you rate Grumman benefits?
- ☐ Excellent
- ☐ Good
- ☐ Fair
- ☐ Poor

If you could change anything at work what would it be?

_____

_____

Do you feel secure in your job?
☐ Yes ☐ No

Why? _____

Do you serve your community as a volunteer?
☐ Yes ☐ No

What do you do? _____

How would you rate yourself as a worker?
- ☐ Superstar
- ☐ Good team player
- ☐ Workaholic
- ☐ Average
- ☐ Lazy

How would you rate your boss?
- ☐ Great leader
- ☐ Slave driver
- ☐ Plays favorites
- ☐ Average

What Grumman after hours activities do you participate in?
- ☐ Lecture series
- ☐ Sports
- ☐ Clubs
- ☐ Professional societies

Do you use a computer terminal at work?
☐ Yes ☐ No

Do you have one at home? _____

Are you satisfied with your current career path?
☐ Yes ☐ No

Why? _____

Do you go to school after work?
☐ Yes ☐ No

What do you think about Grumman's future?

_____

_____

_____

What do you think is the company's strength?

_____

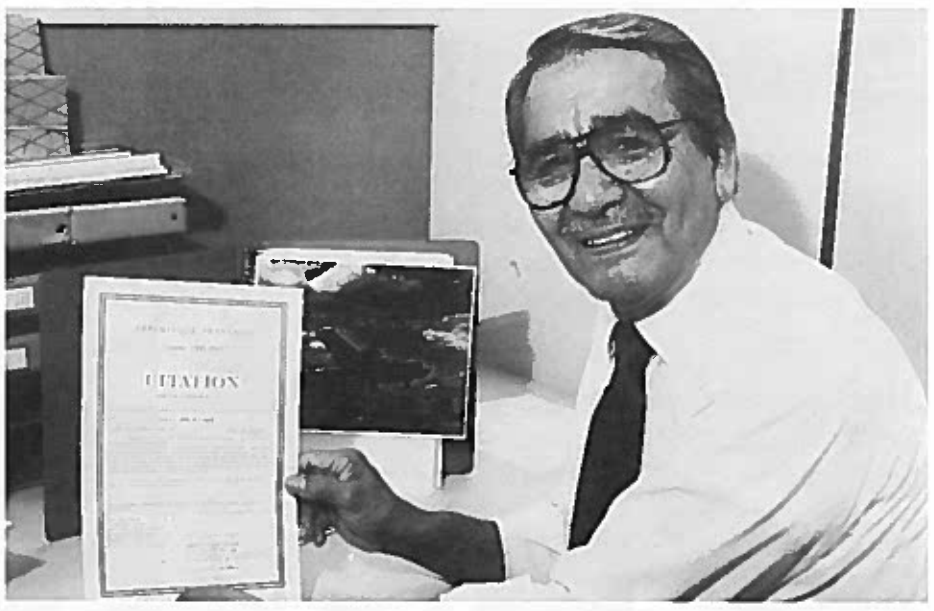
_____

What do you think is the company's weakness?

_____

_____

Mail to Grumman World
C14-05, no later than October 30



Merci, Beaucoup. *Grummanite Bob Sanchez was recently honored by the French government for his World War II heroics. He received the Croix de Guerre.*

French Salute Sanchez For His WWII Heroics

Grummanite Bob Sanchez was recently cited by the government of France for his heroism 43 years ago.

Sanchez and about 60 other members of World War II's 492nd Bombardment Group were presented with France's Croix de Guerre (War Cross). This group of American aviators and flight personnel airlifted supplies, munitions, and spies to the resistance in Nazi-occupied Europe, flying over 2,000 missions during 1944. The presentation was made at a recent reunion of the group in Kettering, England — the site of the Harrington U.S. Army Air Corps Base to which they were assigned.

Most of the group's missions were to France, Belgium, and the Netherlands, though Sanchez also flew to Norway and others went to Germany. "We flew at night in B-24s painted black," recalls Sanchez. "We came in at treetop level to avoid radar."

Crews could not communicate with the ground by radio; upon arrival at the destination, resistance people on the ground signalled with lamps. The crew countersigned. "Then they lit a runway about the size of a football field with smudge pots," Sanchez says.

In addition to smuggling in resistance spies, the 492nd airlifted people out who had important facts for the Allies. Shuttling to and from the occupation zones, these spies and their escorts came to be known as the "carpetbaggers." Over nine months, about 208 people from the 492nd were lost to enemy fire.

During the Battle of the Bulge, Sanchez' crew was commissioned to bring tank fuel to General Patton's forces in France. He briefly flew path-finder missions in Germany. Sanchez would arrive five minutes ahead of his compatriots, dropping a few bombs to mark the target.

"First the searchlights would go on and then they started shooting," he says. "When that stopped, we knew to get out of the way fast because their night fighter planes were coming after us."

Sanchez later flew in Korea and Vietnam, earning the Distinguished Flying Cross, six Air Medals, the Bronze Star, and the Purple Heart. He joined Grumman in 1969 and is now group leader—Logistics Supplies Support for the Electronics Systems Division in Melville.■

Denzler Saves Accident Victim

Grummanite Ted Denzler became a local hero for saving a man from drowning. An inspector of nacelles and other structural aircraft parts in Electronics Systems' Houston, Texas, facility, Denzler also holds a part-time job as a police officer in nearby Nassau Bay.

At 2 a.m. during a recent weekend shift, Denzler was stopped by a witness who saw a car speed through an intersection and into the water.

Denzler saw the tail lights of the car shining about 50 yards out on the surface of Clear Lake. His partner called for help while he and another witness swam out to the driver.

"The car was just about under water when we got out there. The driver had panicked," says Denzler. "He kept pulling me under to keep himself up."

Eventually, they managed to get the man back to shore safe and sound.

It was an auspicious beginning for Denzler, who has been a police officer just since April. His achievement has been recognized with awards from the chief of police and the mayor.■

The 25-year Luncheon Will Be Held At The Crest Hollow Country Club In Woodbury, L.I., on December 8

Across The Boards. *In Grumman's Salisbury, Maryland, facility, Tammy Salisbury builds a wire harness for a Grumman aircraft. The board acts as a pattern in making this complex assembly of wires. These harnesses link the advanced electronic devices aboard today's planes. This Electronics Systems Division facility keeps over 29 million feet of wire in inventory. (Photo by Bob Sagliocca)*

Patient Advocate Is More Than Cost Containment

If you are a member of the Grumman/Travelers Group Health Insurance Plan, you should be aware of the Patient Advocate Program.

Patient Advocate is more than a cost containment program. Its goal is to get Grummanites more involved in exploring treatment alternatives, so they can better determine how their health care needs will be met. In addition, Patient Advocate offers guidance that will help people get the most out of the Grumman health plan.

Before undergoing surgery in a hospital or as an outpatient, you must call the Patient Advocate. You are also required to call within two days of an emergency admission to a hospital, or before getting a second opinion. (Second opinions for some procedures have been required since 1985.) If you don't call Patient Advocate, *there is an extra deductible of $250 for non-compliance.*

When you call Patient Advocate, you are assigned one of the nine registered nurses associated with the Grumman program. They know the Grumman/Travelers plan inside and out. They will tell you if a second opinion is required by the Grumman plan, the average length of stay in a hospital for your case, the health care alternatives available, and other decision-making information. They will also talk with your doctor, and tell you if there are alternatives to your surgery. However, the decision as to whether or not to have surgery is always up to you. The patient advocates are there to advise you.

They are also there to help you work your way through the often confusing world of health care. They will mail you Grumman forms to fill out, and suggest post-operative care options.

Grummanites nationwide can call the program on a toll free number (1-800-521-0157), Monday through Friday, 7 a.m. to 7 p.m. Eastern Standard Time.

In the event of an emergency, urgent, or unscheduled admission, you should call Patient Advocate within one working day of the admission to avoid reduced benefit payment. If you can't call, have a family member, friend, doctor or hospital staff member call for you.

Of course, you can call the Patient Advocate whenever you want to learn more about health care alternatives or resources available in your community. The advocates will give you the information you need when you need it, so you can get the best use out of the health care system and your benefits.■

Grumman World — Vol. 6, No. 18, October 9, 1987. Published twice a month for active and retired employees of Grumman Corporation. 1111 Stewart Ave., Bethpage, N.Y. 11714. W.B. Jones, Vice President-Public Affairs.

Norine Lyons
Director - Corporate Publications
575-3720

Kathleen Housley
Editor — 575-3293

Associate Editors
Bob Sample — *575-5118*
Susan Vassallo — *575-8999*
John Vosilla — *575-5119*

Bernadette Gately
Editorial Assistant — 575-4334

Thanks For Writing

Readers suggest ways to improve *Grumman World*

We said we didn't want to do all the talking and you certainly haven't let us down. Since the *Grumman World* readership survey began in August, we have received over 60 responses.

To those who praised our efforts, a hearty thanks. Of course, several people offered constructive criticism, and we appreciate that too.

Here are some of the comments that we've received:

"Great! Do not change your format. As a retiree, I can't get enough news about the company." Retirees will be happy to hear that we have changed our distribution system, starting with the September 25 issue. An up-to-date mailing list from the Pension Department is now being used, so that all Grumman retirees will receive their papers at their current addresses — including the ever-elusive snowbirds.

"You should push the 'Letters To The Editor' column." Our mail box is not brimming with letters to the editor; however, we do run the letters in *Grumman World* if they are of general interest to our readers. We have two letters in this issue on page 2.

"Run more historical stories to show our rich past that made this company great." In the past we have run "The Way It Was" columns which highlighted events in the company's history. Due to popular demand, this column will be resurrected in the near future.

"On a whole, articles were good, but people are not interested in security." "I don't care about drug abuse. Why run stories about this?" You can't please everyone all the time. *Grumman World* tries to publish a broad scope of articles for its readers. As for security, it is a major issue facing the industry today, and it's important for Grummanites to understand the procedures and problems. The series on drug abuse drew plenty of raves from readers. It was a series that we hope spurred some Grummanites to seek help.

"Write more stories about program news, departments and the people who work in them." Grumman World is constantly looking for news scoops and article suggestions. Submit your ideas on the Readership Survey form on this page to *Grumman World*, C14-05.

"Did I miss something? My September 11 issue of Grumman World *did not contain the article on EIP withdrawal."* Good catch. The Employee Investment Plan article was not ready for publication in the September 11 issue. It ran in the following issue on September 25.

"About the caption for the new Grumman boat — it's cuddy cabin, not cutty cabin." Were we embarrassed. Perhaps we were thinking of Cutty Sark scotch with the schooner on the label.

This issue's readership survey is on page 15. Fill it out and mail it to *Grumman World*, C14-05. We'd like to hear from you.■

Readership Survey

We don't want to do all the talking. We'd like to know what you think about the things you see in these pages. Your comments, suggestions and complaints are welcomed. Please take a few minutes and give us your opinions.

Article	Great	Good	Poor	Didn't Read
Engineering Center (Pg. 1)	☐	☐	☐	☐
St. Augustine (Pg. 2)	☐	☐	☐	☐
Lavi Fighter (Pg. 3)	☐	☐	☐	☐
Chaff (Pg. 4)	☐	☐	☐	☐
Quality Circles (Pg. 5)	☐	☐	☐	☐
Master File (Pg. 6)	☐	☐	☐	☐
A-6 Manufacturing (Pg. 7)	☐	☐	☐	☐
Offsets (Pg. 8)	☐	☐	☐	☐
United Way (Pg. 10)	☐	☐	☐	☐
Trainees (Pg. 12)	☐	☐	☐	☐
Federal Deficit (Pg. 13)	☐	☐	☐	☐
Opinion Survey (Pg. 14)	☐	☐	☐	☐

Suggestions For Future Articles:.....

.....

.....

Comments About This Issue:.....

.....

.....

Name.....

(Required If You Wish A Reply) **Ext.**.....

☐ Retiree **Division**.....

Mail to: Grumman World, A22-GHQ
1111 Stewart Ave., Bethpage, N.Y. 11714

Keeping Track Of PPO Dentists

This year, the Grumman/Travelers dental insurance plan is offering a preferred provider organization (PPO).

The dental PPO is a group of dentists who have agreed to a rate structure for their services. For some procedures, a PPO dentist may charge amounts equal to those in the dental schedule of benefits.

You don't have to sign up with the dental PPO. Everyone who belongs to the Grumman/Travelers dental plan gets it automatically. Therefore, you can use a PPO dentist for one procedure, a non-PPO dentist for another, and be covered for both. Your out-of-pocket expenses, however, will be less with a PPO dentist.

All eligible Grummanites were mailed a directory of participating dentists earlier this year. This listing has been revised; Employee Services offices have a complete up-to-date list for your reference.

Search Is On For '88 Scholars

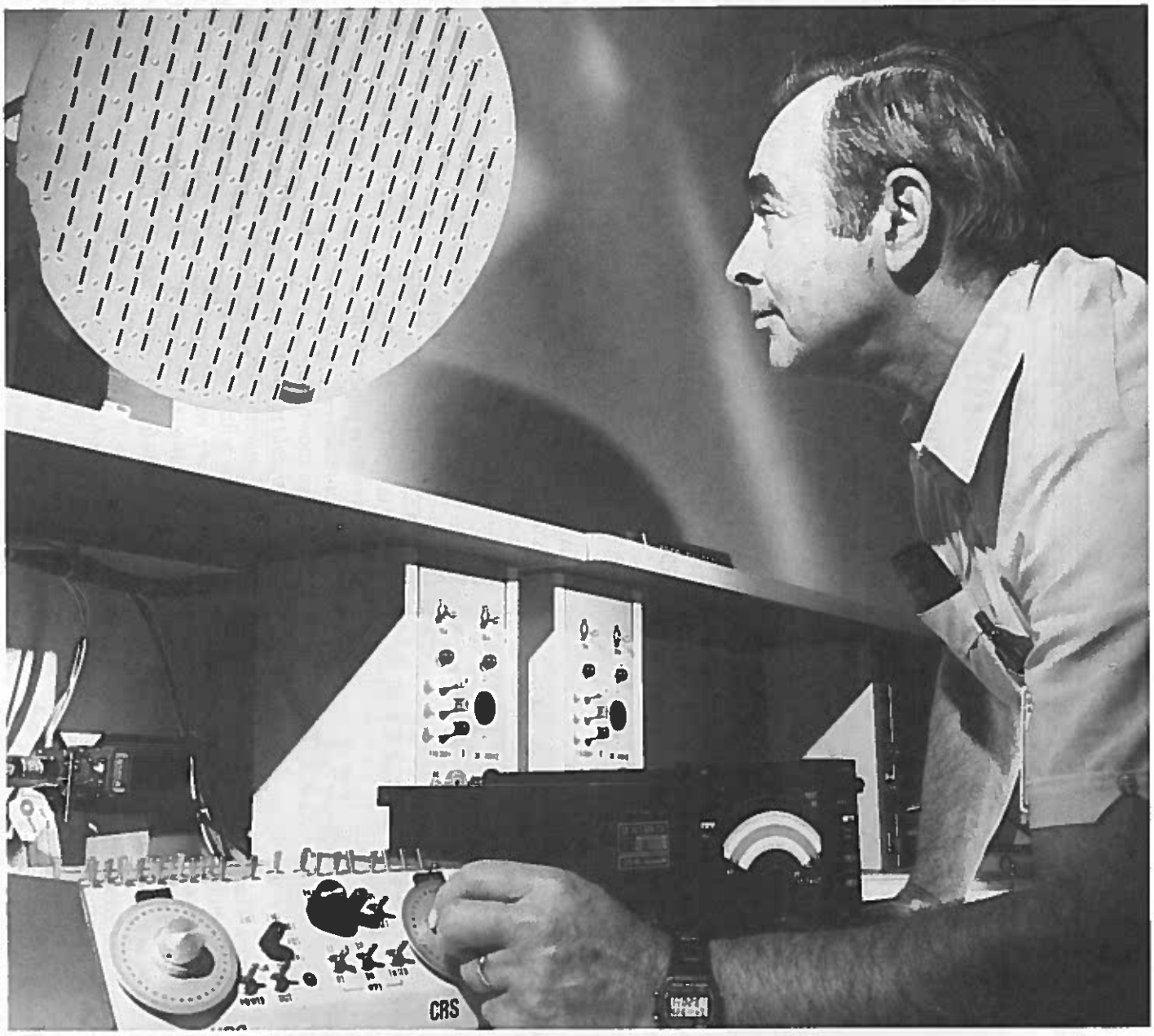
Application deadline for the 1988 Grumman Science and Engineering Scholarships is November 1. The program is open to all Grumman dependents throughout the country who are high school seniors and who plan to attend a four-year college to pursue a science or engineering degree.

The 12 scholarship winners each receive up to $6,000 per year for tuition. Applications are available at all L.I. schools and at off-L.I. site administration offices. For more information, call Sue Derienzo, Ext. (111) 52682.

GrummanWorld
A22-GHQ
1111 Stewart Avenue
Bethpage, N.Y. 11714

Bulk Rate
U.S. Postage
Paid
Hicksville, NY
Permit No. 1110

GrummanWorld
October 9, 1987



(Photo by Bob Settles)

Checking Out The Blips

In the days of the Red Baron, great vision was about the only instrument pilots had to spot enemy planes and thunderclouds. Today's pilots have got to have radar.

In the Avionics Lab in Building 4 in Bethpage, Aircraft Systems technicians make sure the radar systems of E-2C's and C-2A's work perfectly before they are installed in new aircraft.

Here radar technician Fred Carter is testing the antenna from the radar of a C-2A carrier on-board delivery aircraft. The antenna is built by Bendix in Ft. Lauderdale, Florida. Carter spends about four hours testing the antenna before he gives it his stamp of approval.